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ABSTRACT

This third of three how-to manuals in the Adult Competency Education (ACE) kit contains the ACE Taxonomy of Instructional Objectives, a bibliography, and other ACE forms and materials. The Taxonomy lists the 400 measurably-stated instructional objectives of the ACE adaptation of the Generic Skills Taxonomy against the mathematics and communications skills found to be essential to jobs which were researched during on-site employee interviews and for which job descriptions were then developed. These are presented/coded by unit, item, and specific objective. A brief explanation of how to develop instructional materials using these objectives is then given. The bibliography lists instructional materials used by ACE by these topics: reading-writing, mathematics, job-related, and miscellaneous. Other materials include student competency profiles and assignment sheets, a matrix of skills required on jobs (with reference to the ACE Taxonomy), and the script for the ACE project slide/tape presentation, The A.C.E. Story. (Also available in ERIC are other manuals, the project final report, and job descriptions--see Note.) (YLB)

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Adult Competency Education kit

a project of the career preparation centers

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PART C

Taxonomy of Instructional Objectives
How to Develop Instructional Materials
Bibliography
Student Competency Profiles
Student Assignment Sheets
Matrix of Academic Skills Needed in ACE Jobs
ACE Slide/Tape Script

BASIC SKILLS IN SPEAKING, MATH, AND READING FOR EMPLOYMENT

Products and Processes
Developed by the
Adult Competency Education Project
Director, Joe Cooney

OE 016 821

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NOTE

JOB DESCRIPTION NUMBERS. ACE investigated 100 jobs and developed 68 of them into Competency Based Job Descriptions. The above 68 are numbered according to the original listing. The gaps are in the numbering only. This is a complete list of the ACE Competency Based Job Descriptions.

A.C.E. TAXONOMY OF INSTRUCTIONAL OBJECTIVES*

as modified and adapted by:

Michael Malone

with contributions by:

Janice Becker
(organization and writing of basic reading measurable objectives)

Penny Pickels
(collaboration in writing measurable objectives for grammar)

*Generic Skills, Kawula, Walter D., and Smith, Arthur De W., Training Research and Development Station, Department of Manpower and Immigration, Prince Albert, Saskatchewan, 1975.

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INSTRUCTIONAL OBJECTIVES

UNIT 1 - WHOLE NUMBERS

ITEM A - READ, WRITE AND COUNT

1A.1 Given a series of numbers in numeral form (e.g., 10, 20, 30) be able to copy series in hand-written form with 100% accuracy.

1A.2 Identify place value of digits in a given whole number with up to seven digits.

1A.3 Read a given whole number less than ten million and write its name in words.

1A.4 Write a whole number less than ten million given the word name of the number.

1A.5 Count a set of up to 100 objects and state or write the number of objects counted.

1A.6 Arrange a set of whole numbers in ascending or descending order.

ITEM B - ADD AND SUBTRACT

1B.1 Perform additions of whole numbers given instructions such as:

What is the total of 8 and 5?
8 plus 5 is____;
Find the sum of 8 and 5;
Add 8 and 5;

$8 + 5 =$ ____;

$$\begin{array}{r} 8 \\ +\,5 \\ \hline \end{array}$$

1B.2 Find the sum of a set of whole numbers of 1-5 digits including cases where carrying is required.

1B.3 Perform subtraction of whole numbers given instructions such as:

8 minus 5 is____;
Subtract 5 from 8;
Find the difference of 8 and 5;
8 - 5 = ____;

If you had 8 and gave away 5, you would have ____;

$$\begin{array}{r} 8 \\ -\,5 \\ \hline \end{array}$$

1B.4 Find the difference of two 1-5 digit numbers including cases where borrowing is required.

1B.5 Solve a routine word problem using subtraction and/or addition of whole numbers.

1B.6 Perform the above operations with the aid of a calculator.

INSTRUCTIONAL OBJECTIVES

ITEM C- MULTIPLY AND DIVIDE

1C.1 Perform multiplication of whole numbers given instructions such as:

6 times 2 is ____;
Six two's are ____;
The product of 6 and 2 is ____;

$6 \times 2 = ____$;

$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$.

1C.2 Find the product of a given pair of whole numbers of which one number is up to five digits and the other number up to three digits.

1C.3 Perform division of two simple whole numbers (no remainder) given instructions such as:

6 divided by 2 is ____.
2 into 6 goes ____ times.
The quotient of 6 divided by 2 is ____;

$6 \div 2 = ____$;

$2\overline{)6} = ____$;

$\frac{6}{2} = ____$.

1C.4 Find quotients of 1-5 digit dividends and 1-3 digit divisors including cases where there are remainders.

1C.5 Solve routine word problems using multiplication and/or division of whole numbers.

1C.6 Perform the above operations with the aid of a calculator.

ITEM D- COMBINATION OF FUNCTION PROBLEMS

1D.1 Use addition, subtraction, multiplication or division, as appropriate, in the solution of problems involving a combination of two or more functions with whole numbers.

ITEM E- ROUND OFF

1E.1 Round off a number to the nearest ten, hundred, thousand, ten thousand or hundred thousand.

INSTRUCTIONAL OBJECTIVES

UNIT 2- FRACTIONS

NB: Fractions used for test items are to be those which could realistically be expected to be used in occupational work (e.g., one to two digit denominators or even hundreds or thousands). Fractions used in occupational operations generally have denominators such as 2, 3, 4, 5, 10, 25, 100, 1,000, 2,000 and not 7, 9, 37, 1,005 etc. Comparison or reduction of fractions usually involves no more than three fractions and the denominators usually have a measurement relationship such as x/4, x/8, x/16, or x/9 and x/27.

ITEM A- READ AND WRITE

2A.1a In a given diagram or illustration, name the fraction which represents a given number of parts out of a total number of equal parts.

2A.1b Read fractions orally and explain that a fraction represents a given number of parts out of a total number of equal parts.

2A.2 Reduce a fraction to its simplest form (lowest terms).

2A.3 Change improper fractions to mixed numbers and mixed numbers to improper fractions.

2A.4 Write equivalent fractions for a given fraction given a new numerator and denominator.

2A.5 Arrange a set of fractions and/or mixed numbers in ascending or descending order.

2A.6 Write what fractional part one number is of another in simplest form.

2A.7 Find the common denominator of two or more fractions.

2A.8 Given two fractions, write equivalent fractions for each using the common denominator.

ITEM B- ADD AND SUBTRACT

2B.1 Calculate the sum in simplest form of two or three common fractions with like denominators.

2B.2 Calculate the sum in simplest form of two or three common fractions with unlike denominators.

2B.3 Calculate the sum in simplest form of two or three mixed numbers with like and unlike denominators.

INSTRUCTIONAL OBJECTIVES

2B.4 Calculate the sum in simplest form of two or three numbers which include at least one proper fraction and one mixed number.

2B.5 Calculate the difference in simplest form of two common fractions with like denominators.

2B.6 Calculate the difference in simplest form of two common fractions with unlike denominators.

2B.7 Calculate the difference in simplest form of two mixed numbers which have <u>like</u> denominators including cases where borrowing is required.

2B.8 Calculate the difference in simplest form of two mixed numbers which have <u>unlike</u> denominators including cases where borrowing is required.

2B.9 Solve a routine word problem using addition and/or subtraction of fractional and/or mixed numbers.

2B.10 Perform the above operations with the aid of a calculator.

ITEM C- MULTIPLY AND DIVIDE

2C.1 Calculate the product in simplest form of:

a. a common fraction and a whole number;
b. two common fractions.

2C.2 Calculate the product in simplest form of:

a. a mixed number and a whole number;
b. two mixed numbers.

2C.3 Calculate the product in simplest form of two or three numbers which include at least one common fraction and one mixed number.

2C.4 Calculate the quotient in simplest form of:

a. a common fraction divided by a whole number;
b. two common fractions;
c. a whole number divided by a common fraction.

2C.5 Calculate the quotient in simplest form of:

a. a mixed number divided by a whole number and vice versa;
b. a mixed number divided by a common fraction and vice versa;
c. two mixed numbers.

INSTRUCTIONAL OBJECTIVES

2C.6 Solve a routine word problem using multiplication and/or division of fractional and/or mixed numbers.

2C.7 Perform the above operations with the aid of a calculator.

ITEM D- COMBINATION OF FUNCTION PROBLEMS

2D.1 Use addition, subtraction, multiplication or division, as appropriate, in the solution of problems involving a combination of two or more functions with fractional and/or mixed numbers.

UNIT 3- DECIMALS

NB: Decimals used for test items are to be those which could realistically be expected to be used in occupational work (e.g., no more than three zeros required to position the decimal (.0001) or no more than four digits after the decimal is rounded off (1.7824).

ITEM A- READ, WRITE AND COUNT

3A.1 Read a given 1-4 place decimal fraction and write its name in words.

3A.2 Write a 1-4 place decimal fraction given the word name of the number.

3A.3 Arrange a set of decimal fractions in ascending or descending order.

ITEM B- ADD AND SUBTRACT

3B.1 Calculate the sum of a set of decimal fractions.

3B.2 Calculate the difference of two decimal fractions.

3B.3 Solve a routine word problem using addition and/or subtraction of decimal fractions.

3B.4 Perform the above operations with the aid of a calculator.

INSTRUCTIONAL OBJECTIVES

ITEM C- MULTIPLY AND DIVIDE

3C.1 Calculate the product of two decimal fractions when rounding off is (a) required, and (b) not required.

3C.2 State or write the product of a number and a power of ten between .001 and 1,000 without written calculation.

3C.3 Calculate to a given number of decimal places; the quotient of a whole number divided into:

a. a whole number larger than the divisor;
b. a whole number smaller than the divisor;
c. a decimal fraction.

3C.4 Calculate to a given number of decimal places, the quotient of a decimal fraction divided into:

a. a decimal fraction;
b. a whole number.

3C.5 State or write the quotient of a number divided by a power of ten between .001 and 1,000 without written calculation.

3C.6 Solve a routine word problem using multiplication and/or division of decimals.

3C.7 Excepting objectives 2 and 5, perform the above operations with the aid of a calculator.

ITEM D- ROUND OFF

3D.1 Round off a decimal fraction to the nearest tenth, hundredth, thousandth, or ten-thousandth.

ITEM E- DOLLARS AND CENTS

3E.1 Read a given value less than $10,000,000.00 and write or state its name in words.

3E.2 Write a value less than $10,000,000.00 given the word name of the amount.

3E.3 Add columns of dollars and cents values including amounts from $ .01 to $9,999.99.

3E.4 Subtract one amount of money from another with values up to $10,000.00.

INSTRUCTIONAL OBJECTIVES

3E.5 Calculate the total cost of up to twenty-five items of equal value.

3E.6 Calculate the unit cost of an item when given the total cost of up to twenty-five of the same items.

3E.7 Round off dollars and cents amounts to the nearest cent.

3E.8 Round off an amount of money to the nearest dollar, ten dollars, hundred dollars or thousand dollars.

3E.9 Perform objectives 3 to 6 with the aid of a calculator.

3E.10 Given an amount of money and the cost of items purchased, make change.

3E.11 Solve practical problems involving addition and subtraction of dollars and cents amounts.

3E.12 Solve practical problems involving the use of multiplication and division of dollars and cents amounts.

ITEM F- COMBINATION OF FUNCTION PROBLEMS

3F.1 Use addition, subtraction, multiplication or division, as appropriate, in the solution of problems involving a combination of two or more functions with decimal fractions.

3F.2 Use addition, subtraction, multiplication or division, as appropriate, in the solution of problems involving a combination of two or more functions with dollars and cents amounts.

UNIT 4- PERCENT

ITEM A- READ AND WRITE

4A.1 Identify a percent as equivalent to a fraction with 100 as the denominator.

4A.2 Identify the percent symbol (%) by writing in words a given percentage.

INSTRUCTIONAL OBJECTIVES

ITEM B- PERCENTAGE CALCULATION

4B.1 Calculate a percent of a number of the following types:

5% of 170 = _____;
5.7% of 170 = _____;
5.7% of 17.43 = _____.

4B.2 Calculate percent problems like determining what percent one number is of another such as:

12 is _____% of 60?
12.5 is _____% of 60?
12 is _____% of 60.5?

4B.3 Calculate percent problems like determining a number when a percent of it is known such as:

5% of _____ = 60;
5.5% of _____ = 60;
5.5% of _____ = 60.5.

ITEM C-WORD PROBLEMS

4C.1 Solve a routine word problem involving the calculation of the percent of a number.

4C.2 Solve a routine word problem involving the calculation of a rate.

4C.3 Solve a routine word problem involving the calculation of the base.

4C.4 Identify interest as an amount of money paid for the use of money, principle as the amount of money being used, rate as the percent of the principle to be paid for the use of it, and time as the amount of time the principle is to be used.

4C.5 Solve simple interest problems.

INSTRUCTIONAL OBJECTIVES

UNIT 5- MIXED OPERATIONS

ITEM A- EQUIVALENTS

5A.1 Convert:

a. a common fraction or mixed number to a decimal fraction;
b. a decimal fraction to a common fraction or mixed number.

5A.2 Convert:

a. a percent to a fraction;
b. a fraction to a percent.

5A.3 Convert:

a. a percent to a decimal;
b. a decimal to a percent.

5A.4 Use standard tables to convert:

a. a fraction to a percent;
b. a percent to a fraction.

5A.5 Write from memory (without written calculation):

a. the decimal and percent equivalents of 1/2 , 1/3 , 1/4 , 2/3, 3/4, 1/5, 2/5, 3/5, and 4/5;
b. the conversion fraction equivalents of .5, .33 1/3, .66 2/3, .25, .75, .2, .4, .6, and .8;
c. the fraction equivalents of 50%, 33 1/3%, 66 2/3%, 25%, 75%, 20%, 40%, 60%, and 80%.

ITEM B- PROBLEMS WITH MIXED FUNCTIONS WITH VARIED TYPES OF NUMBERS

5B.1 Determine the average of a group of numbers.

5B.2 Solve a practical problem involving the calculation of the average of a group of numbers.

5B.3 Simplify an expression involving addition and subtraction of whole numbers.

5B.4 Simplify an expression involving addition and/or subtraction and multiplication and/or division of whole numbers or fractions.

5B.5 Simplify an expression which requires the removal of parentheses.

5B.6 Simplify an expression in which the numerator and/or denominator of a fraction is a sum, difference, product, or quotient of two whole numbers.

INSTRUCTIONAL OBJECTIVES

5B.7 State the order in which various types of operations should be performed.

5B.8 Solve a routine word problem using addition, subtraction, multiplication, and/or division of decimal fractions and common fractions or mixed numbers.

5B.9 Write a mathematical expression relating the facts in a given problem and then simplify that expression.

5B.10 Given word problems appropriate to a selected occupation, be able to: Select arithmetic functions to be performed; determine the order in which they are to be done; and obtain the required solution.

5B.11 Given appropriate occupational arithmetic calculation requirements the student will be able to perform the operations using common short cut methods.

ITEM C- RATIO

5C.1 Identify comparisons of two numbers in forms such as a:b, "a is to b", or "a parts to b parts", as ratios.

5C.2 State or write in simplest form (lowest terms) a ratio of two numbers or items in the form:

a. a:b; b. $\frac{a}{b}$.

5C.3 Write a ratio, given a description of two numbers or items, one of which must be determined by addition or subtraction of the numbers in a given ratio.

ITEM D- PROPORTION

5D.1 Identify an equality of two ratios in the form of: a:b = c:d, $\frac{a}{b} = \frac{c}{d}$, "a is to b as c is to d", or "a parts to b parts is the same as c parts to d parts", etc., as a proportion.

5D.2 Calculate the unknown number given three numbers in a proportion.

5D.3 Calculate a number when a fraction of it is known, using the proportion method.

5D.4 Solve a routine word problem involving the solution of a proportion.

ITEM E- DISTANCE, TIME, RATE

5E.1 Solve problems involving the calculation of distance, time or rate.

INSTRUCTIONAL OBJECTIVES

UNIT 6- MEASURE, ESTIMATE, CALCULATE

NB: 1. Excessively small or large measurement estimates are not required. Extremes such as seconds/months, less than one ounce/over 100 pounds, less than a quarter inch /over fifty feet, should be avoided.

2. Students should be allowed to use the senses of sight and touch when estimating.

ITEM A- AREAS

6A.1 Identify area as the measurement of the surface of a figure and state units used (sq. in., sq. ft., sq. yd., sq. mi.).

6A.2 Calculate the area of a given square.

6A.3 Calculate the area of a given rectangle.

6A.4 Determine the altitude of a given triangle.

6A.4a Calculate the area of a given triangle.

6A.5 Calculate the area of a given circle.

6A.6 Solve a practical problem involving area calculations of a square, rectangle, triangle, and/or circle.

6A.7 Estimate the area of common rectangular or square objects within 25% of the actual area.

6A.8 Calculate the area of a regular polygon of up to ten sides.

6A.9 Solve a practical problem involving the area of an irregular polygon.

ITEM B- PERIMETERS

6B.1 Identify perimeter as the length of the outer boundary of a plane figure and identify the units used as inches, feet, yards, etc.

6B.2 Calculate the perimeter of a given rectangle, square, or triangle.

6B.3 Identify π as a constant equal to c/d for all circles and identify its approximate value as 3 1/7 or 3.14.

6B.4 Calculate the circumference of a circle given:

a. its radius;
b. its diameter.

6B.5 Solve a routine word problem involving perimeter.

INSTRUCTIONAL OBJECTIVES

6B.6 Estimate the perimeter of an object to within 25% of the actual length.

6B.7 Solve a practical problem involving the calculation of the perimeter of an irregular polygon.

ITEM C- VOLUMES

6C.1 Calculate the volume of a given rectangular solid (including cubes).

6C.2 Calculate the volume of a given cylinder.

6C.3 Calculate the number of board-feet (FBM) in a stated piece or in pieces of lumber.

6C.4 Calculate the volumes of cones, pyramids, and spheres.

6C.5 Solve practical problems involving volume calculations of various solids.

6C.6 Cubic Measure:
Estimate the cubic measurement of a common object or space to within 50% of the actual measurement.
The common object or space to be a reasonable size (small as a book to as large as a classroom) and to be square or rectangular in configuration.

ITEM D- CAPACITY

6D.1 Add and subtract units of liquid measure including cases where re-grouping is required.

6D.2 Estimate the liquid contents or capacity of common containers to within 50% of the actual content or capacity.

6D.3 Measure liquid content or capacity of a container to within one unit of the scale on the measuring instrument.

ITEM E- WEIGHT

6E.1 Add and subtract weight measures including cases where borrowing is required.

6E.2 Weigh common objects on balance or spring loaded scales, correct to within one unit of the scale readings.

INSTRUCTIONAL OBJECTIVES

6E.3 From visual, kinesthetic, and tactile perception, and with immediate subsequent feedback, estimate the weight of various items of different shape, size, and composition (e.g., chair, table, book), to within 20% of actual weight.

ITEM F- DISTANCE

6F.1 Add and subtract units of distance including cases where borrowing is required.

6F.2 Measure a given distance or one dimension of an object with a ruler or tape measure, correct to within one unit of the scale reading.

6F.3 Estimate the length, width, height, or distance between objects, to within 20% of actual measurement, in cases such as the following:

a. dimensions of a book, box, desk, room or building;
b. distances up to 200 yards.

ITEM G- TIME

6G.1 Subtract 12-hour clock times including cases where borrowing is required.

6G.2 Measure the actual duration of time expended to perform routine functions, correct to within 5% of actual duration.

6G.3 Add a time interval to a 12-hour clock time.

6G.4 Subtract a time interval from a 12-hour clock time.

6G.5 Multiply given units by time intervals (e.g., 3 people times 4 hours and 35 minutes).

6G.6 Given hours of work and rates of work, calculate hours per week and hours per month.

6G.7 Estimate the duration of time actually required to perform routine functions, to within 50% of the actual time.

INSTRUCTIONAL OBJECTIVES

ITEM H- COSTS

6H.1 Given unit costs for material, wage or salary rates for labor, the total number of items, the hours/days of work, calculate total costs.

6H.2 Given a simple and familiar job, estimate the materials and labor requirements in units of material and hours/days of work.

6H.3 Given a simple and familiar job, unit costs, and wage or salary rates, estimate the units of material and hours/days of work and calculate total costs.

6H.4 Given a description of an unfamiliar job and an estimating guide for labor and material requirements, prepare estimates of materials and labor requirements and calculate total costs from given units costs and wage/salary rates.

6H.5 Given the cost per hour of a service, calculate the total cost for a given number of hours.

ITEM I- CONVERSION; ENGLISH UNITS

6I.1 Convert units of distance from one English unit to another.

6I.2 Convert units of area from one English unit to another.

6I.3 Convert units of capacity from one English unit to another.

6I.4 Convert units of weight from one English unit to another.

UNIT 7- ALGEBRA

ITEM A- SYMBOLS AND TERMINOLOGY

7A.1 Identify "=" as the equals sign, ">" as "is greater than" and "<" as "is less than".

7A.2 Identify a variable as a number whose value is to be determined and a constant as a number which is given.

7A.3 Identify a <u>coefficient</u> as the numerical part of a variable, an <u>exponent</u> as the power to which a number is raised, and a <u>factor</u> as an exact divisor of a number or term.

INSTRUCTIONAL OBJECTIVES

ITEM B - DIRECTED NUMBERS

7B.1 Define directed numbers as numbers having + or - signs.

7B.2 Given a group of directed numbers, arrange them in ascending or descending order.

7B.3 For a given directed number, supply its opposite.

7B.4 Define absolute value as the numerical value of a number without its sign.

7B.5 For a given number, write its absolute value.

7B.6 Given two or more directed numbers, find the sum.

7B.7 Given two or more directed numbers, find the difference.

7B.8 Given two or more directed numbers, find the product.

7B.9 Given two directed numbers, find the quotient.

7B.10 Given several directed numbers, find their average.

ITEM C - FORMULA SOLUTION

7C.1 Given a formula of the nature of $M = \frac{10A \times B}{C}$ or $M = \frac{(A + B)(B + C)}{D}$ and the numerical values of the unknowns to the right of the equal sign, solve.

7C.2 Given a formula of the nature of $M = \frac{\sqrt{A + 2B}}{C}$ or $M = \frac{A^b \times 3C}{D}$, the numerical values of the unknowns to the right of the equal sign, and a table of equivalents of the powers and roots (or a calculator), solve.

ITEM D - ONE-VARIABLE OPEN SENTENCES

7D.1 Write single variable open sentences given verbal statements of relations.

7D.2 Solve single variable open sentences.

7D.3 Write and solve routine word problems which require equations in one unknown (such as: consecutive integer, angle, uniform motion, mixture, work investment, and average problems.

INSTRUCTIONAL OBJECTIVES

ITEM E - PROGRESSIONS and SERIES

7E.1 Define an arithmetic progression as a sequence $\{a_n\}$ such that each term is determined by the equation $a_n = a_1 + (n - 1)d$, where a_1 is the first term of the sequence, d is the difference between terms, and n represents the number of the term.

7E.2 Given a sequence in which the difference between consecutive numbers is a constant, identify it as an arithmetic progression, find the general formula for a_n, and find the value of a given term.

7E.3 Find the first five terms of an arithmetic progression, given the values of "a_1" and "d."

7E.4 Define $\sum$ as the symbol for summation.

7E.5 Find the sum of the first n terms of a given arithmetic progression. $\left[\sum_{r=1}^{n} a_r = S_n = n\left(\frac{a_1 + a_n}{2}\right)\right]$.

7E.6 Given the n^{th} partial sum of an arithmetic progression and the difference between terms, find a_1 and a_n.

7E.7 Define a geometric progression as a sequence $\{a_n\}$ such that each term is obtained from the formula $a_n = a_1 r^{n-1}$, where a_1 is a given first term and r is a given number.

7E.8 Given a sequence in which the quotient of consecutive terms is a constant, identify it as a geometric progression, find the general formula for a_n, and find the value of a given term.

7E.9 Find the first five terms of a geometric progression given the values of a_1 and r.

7E.10 Determine the n^{th} partial sum of the first n terms of a given geometric progression.

$$\left[S_n = \sum_{K=1}^{n} a_1 r^{K-1} = \frac{a_1(1 - r^n)}{1 - r}\right].$$

7E.11 Determine the arithmetic mean of two numbers, "a" and "b".

$$\left[\frac{(a + b)}{2}\right].$$

INSTRUCTIONAL OBJECTIVES

7E.12 Given two numbers, a_1 and a_2, find three numbers, a_2, a_3 and a_4, such that a_1, a_2, a_3, a_4, and a_5 form the first five terms of an arithmetic progression.

7E.13 Determine the geometric mean of two numbers, "a" and "b".

$$\left[\sqrt{ab}\right].$$

7E.14 Given two numbers, b_1 and b_5, find three numbers, b_2, b_3, and b_4, such that b_1, b_2, b_3, b_4, and b_5 form the first five terms of a geometric progression.

7E.15 Given a sequence, determine the next number which would satisfy the sequence.

7E.16 Given a sequence with a number missing, determine a number such that a general rule can be stated for all members of that sequence (including the missing one).

INSTRUCTIONAL OBJECTIVES

ITEM F - EXPONENTS and POLYNOMIALS

7F.1 Multiply and divide like numbers having different exponents.

7F.2 Find powers and roots of given numbers containing exponents.

7F.2a Define numbers having an exponent of 0 as equal to 1.

7F.2b Define fractional exponents as roots $\left[(4)^{\frac{1}{2}} = 2 \; ; (81)^{\frac{1}{4}} = 3\right]$.

7F.3 Define a polynomial as an algebraic expression containing variables.

7F.4 Given polynomials, add them.

7F.5 Given two polynomials, find their difference.

7F.6 Multiply a polynomial by a monomial.

7F.7 Multiply a polynomial by a polynomial.

7F.8 Divide a polynomial by a monomial.

7F.9 Divide a polynomial by a polynomial.

7F.10 Simplify sums and differences of polynomials.

7F.11 Simplify products and quotients of polynomials.

ITEM G - SPECIAL PRODUCTS & FACTORING

7G.1 Given polynomials containing common factors, factor them.

7G.2 Multiply two polynomials, one of which is the sum and the other is the difference of two terms [i.e.: $(x - 7)(x + 7)$.]

7G.3 Factor a number in the form $x^2 - c^2$.

7G.4 Square a binomial.

7G.5 Factor a trinomial in the form $x^2 + 2cx + c^2$.

7G.6 Factor the products of either binomial sums or binomial differences.

7G.7 Factor the product of a binomial sum and a binomial difference.

7G.8 Factor a polynomial involving more than one type of factoring.

7G.9 Solve polynomial equations by factoring.

INSTRUCTIONAL OBJECTIVES

ITEM H - RADICALS, RATIONAL and IRRATIONAL NUMBERS and QUADRATIC EQUATION

7H.1 Define the root of a number as that number which, when taken as a factor a given number of times, yields the original number.

7H.2 Identify a radical as the symbol $\sqrt{\ }$ indicating a certain root to be taken.

7H.2a Determine the number of roots of an equation. (The student need not solve the equation, merely state the possible number of roots which would satisfy the equation.)

7H.3 Identify a rational number as a number which can be expressed as a fraction and an irrational number as one which cannot be expressed as a fraction.

7H.4 Given two or more terms, each containing a radical, find their product or quotient and simplify it.

7H.5 Given two terms, each consisting of the sum and/or difference of two radicals, find their product and simplify it.

7H.6 Given an equation in one variable, solve it by using the quadratic equation:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

7H.7 Given a trinomial equation, solve it by completing the square.

ITEM I - GRAPHS

7I.1 Given a coordinate system and a point on it, give the coordinate of that point in the form (a, b).

7I.2 Given a coordinate system and the coordinates of a point in the form (a, b), draw the point in its correct position.

7I.3 Given a linear equation in two variables, plot it on a graph.

7I.4 Determine the slope of a line on a graph.

7I.5 Write the equation of a line in the slope intercept form.

7I.6 Determine the equation of a line, given two points on the line.

ITEM J - SENTENCES IN TWO VARIABLES

7J.1 Determine that adding, subtracting, multiplying or dividing both sides of an equation by the same number doesn't alter the equality.

7J.2 Separate the known and unknown quantities in an equation so that the unknowns are isolated on the left side of the equal sign and the knowns are on the right side of the equal sign.

INSTRUCTIONAL OBJECTIVES

7J.3 Solve an equation or a pair of equations in two variables by the graphic method.

7J.4 Solve a pair of equations in two variables by the substitution method.

7J.5 Solve a pair of equations in two variables by adding or subtracting.

7J.6 Solve a pair of equations in two variables by comparison.

7J.7 Solve word problems involving one or more equations with two variables.

ITEM K - MATRICES

7K.1 Define a matrix as a rectangular array of elements usually representing linear simultaneous equations.

7K.2 Perform the sum or difference of two given matrices.

7K.3 Find the product of a given matrix and a given scalar.

ITEM L - PERMUTATIONS and COMBINATIONS

7L.1 Recognize permutations as arrangements or sequences of all or part of a set of things with respect to their order of placement.

7L.2 Recognize combinations as arrangements or sequences of all or part of a set of things without regard to the order of placement.

7L.3 Define "n factorial" as "n!" as $n\,(n-1)(n-2)\ldots(1)$.

7L.4 Solve n! for a given value of n.

7L.5 Determine the number of permutations of a set of objects taken all at a time:

a.) without repetitions = $n!$;
b.) with repetitions = $\frac{n!}{(r_1!)(r_2!)}$ where r_1, r_2 represent the number of repetitions of objects in the set.

7L.6 Determine the number of permutations of a set of "n" things taken "r" at a time without repetitions, given n, r, and the formula $\frac{n!}{(n-r)!}$

7L.7 Determine the number of permutations of a set of "n" objects taken in groups of "r" with repetitions allowed, using the formula n^r.

INSTRUCTIONAL OBJECTIVES

7L.8 Determine the number of combinations of a set of "n" objects taken "r" at a time, without repetitions, using the formula:

$$_nC_r = \frac{n!}{(n-r)!r!}$$

7L.9 Given a set of "n" objects, determine the possible combinations of groups of "r" objects when repetition is allowed by evaluating the formula: $\frac{(n + r - 1)!}{(n - 1)!\, r!}$

ITEM M - PROBABILITIES

7M.1 Given a situation for which there are two or more outcomes, write the probability of event E as:

$$P(E) = \frac{\text{number of outcomes favorable to E}}{\text{total number of possible outcomes.}}$$

7M.2 Given 2 disjoint events such that $E_1 \cup E_2 = S$ (where S is the sample space), solve problems using the identities:

$E_1 + E_2 = P(S) = 1$ and its derivations

$P(E_1) = 1 - P(E_2)$ and $P(E_2) = 1 - P(E_1)$.

7M.3 Define the odds in favor of an event as the quotient:

$$\frac{\text{favorable outcomes}}{\text{nonfavorable outcomes}}$$

and the odds against an event as the quotient:

$$\frac{\text{unfavorable outcomes}}{\text{favorable outcomes.}}$$

7M.4 Solve simple problems involving the calculation of the odds in favor of or against an event.

7M.5 Determine the number of combinations of size "r" which are possible from a set of size "n" ($r \leq n$) using the formula

$$_nC_r = \frac{_nP_r}{r!}.$$

7M.6 Determine the probability of a given event using the equation:

$$P(E) = \frac{_mC_r}{_nC_r},$$ where "m" is the number of elements of the sample set which satisfy the outcome desired, "n" is the total number of members in the sample set, and "r" is the size of the groups to be arranged so as to satisfy the event.

INSTRUCTIONAL OBJECTIVES

7M.7 Define "mutually exclusive" events as two events which cannot both be satisfied simultaneously by a given outcome. (If E_1 and E_1 are disjoint sets, then $P(E_1 \cap E_2) = 0$.)

7M.8 Determine the probability of either one of two mutually exclusive events occurring [$P(E_1 \cup E_2) = P(E_1 \text{ or } E_2) = P(E_1) + P(E_2)$.]

7M.9 Determine the probability of one of two outcomes occurring if the two events are <u>not</u> mutually exclusive.

[$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$.]

7M.10 Determine the probability of two successive independent events, where an independent event A is defined as one which is <u>not</u> affected by the occurrence or nonoccurrence of an event B.

[$P(E_1 \text{ and then } E_2) = P(E_1) \cdot P(E_2)$.]

7M.11 Determine the probability of two successive dependent events, where a dependent event R is defined as one which <u>is</u> dependent on the occurrence or nonoccurrence of an event S.

$$P(E_1 \text{ and then } E_2) = \frac{{}_mC_r \cdot {}_nC_s}{{}_tC_{(r+s)}}$$ where ${}_mC_r$ is the number of ways of satisfying E_1, ${}_nC_s$ is the number of ways to satisfy E_2, and ${}_tC_{(r+s)}$ is the total number of ways that the sample set (t) can be combined into groups of size (r+s).

7M.12 Define the array pictured below as Pascal's Triangle and derive the next two rows:

```
          1
        1   1
      1   2   1
    1   3   3   1
  1   4   6   4   1
```

7M.13 Use Pascal's triangle to determine the probability of a given event.

7M.14 Define the "expected value" or "expectation" of a game as the probability of an event multiplied by the winnings realized for that event. (For a "fair" game, the expectation equals the cost of playing.

INSTRUCTIONAL OBJECTIVES

ITEM N - NUMBER BASES

7N.1 Define the "base" of a number system as the number whose powers represent the value of each digit of a number (e.g., $114_{10} = 1 \times 10^2 + 1 \times 10^1 + 4 \times 10^0$; $110010_2 = 1 \times 2^5 + 1 \times 2^4 + 0 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 0 \times 2^0$).

7N.2 Given two or more numbers in a specified base, find the sum.

7N.3 Given two numbers in a specified base, find the difference.

7N.4 Given two numbers in a specified base, find the product.

7N.5 Given two numbers in a specified base, find the quotient.

7N.6 Given a number in base "b", convert that number to base 10.

7N.7 Given a number in base 10, convert that number to base "b".

7N.8 Convert a number in base 10 to a given base "b" using the remainder algorithm.

7N.9 Given a number in base 10, convert it to base 2 notation.

ITEM O - SET THEORY

70.1 Define a set E as a group of objects.

70.2 Define the following symbols and mathematical statements:

a. $x \in A$ (x is a member of set A);
b. $\emptyset$ (the null set);
c. B' (the complement of set B over the universal set);
d. $C \subset D$ (set C is a subset of set D);

70.3 Given two sets, A and B, find set C such that $C = (A \cap B)$.

70.4 Given two sets, D and E, find set F such that $F = (D \cup E)$.

70.5 Given a set G on a universal set R, find G'.

70.6 Given a set H and an element x, determine if $x \in H$.

70.7 Given two sets, J and K, determine if $J \subset K$.

70.8 Given a set L, list all possible subsets of L.

INSTRUCTIONAL OBJECTIVES

70.9 Given a set M in set builder notation (i.e., $\{ x \mid x$ is an odd number greater than zero$\}$), list the first ten terms.

70.10 Define the difference of two sets N and O (N-O) as the set of all elements that belong to N and not O.

70.11 Given three or more sets, find the set resulting from a series of set operations (complements, unions, intersections, and/or differences.

ITEM P - GROUP THEORY

7P.1 Define an operation as a rule by which one or more objects are used to obtain another (not necessarily different) object and a binary operation as a rule by which two objects are used to determine a third (not necessarily different) object.

7P.2 Define a mathematical system as a set of elements together with one or more binary operations that are rules for combining any two elements of the set.

7P.3 Given two numbers and a binary operation defined on them, determine if the operation is commutative (i.e., $a \bullet b = b \bullet a$).

7P.4 Given three numbers and a binary operation defined on them, determine if the operation is associative (i.e., $(a \bullet b) \bullet c = a \bullet (b \bullet c)$).

7P.5 Given a binary operation B and a set S, determine if it has closure (i.e., if $x, y \in S$; $x \, B \, y \in S$).

7P.6 Define an identity element over a system consisting of set S and an operation $\bullet$ as the element e such that $a \bullet e = e \bullet a = a$ for every element "a" in set S.

7P.7 Given a system consisting of a set and a binary operation $\bullet$, determine if an identity element exists and, if so, name it.

7P.8 Define an inverse element as the element "r" such that $r \oplus a = a \oplus r = i$ where "i" is the identity element, $\oplus$ is a binary operation defined on S. (Note that systems without identity elements cannot have inverses).

7P.9 Given a system, determine if each element has an inverse.

7P.10 Given a system consisting of a set Q and two binary operations, $\bullet$ and $\odot$, determine if the system is distributive (i.e., $a \bullet (b \odot c) = (a \bullet b) \odot (a \bullet c)$).

INSTRUCTIONAL OBJECTIVES

7P.11 Given a mathematical system consisting of a set S and an operation • defined on S, determine if it is a group using the following criteria:

a.) The system is closed;
b.) The system is associative;
c.) The system has an identity element;
d.) Every element in the system has an inverse in the system.

7P.12 Given an expression such as: b(mod m) (b and m are integers), evaluate it.

7P.13 Given an equation such as: a = b(mod m) (a,b, and m are integers), determine whether it is true or false.

7P.14 Given an equation similar to: ax = b(mod n), and the values of a, b and n, determine x.

7P.15 Given an equation of the form: y = a(mod m), the values of "a" and "m", and a range of values for "y" (e.g. $100 \leq y \leq 200$), determine all possible values of "y".

7P.16 Given two or more equations in the form: z = c(mod n), the values of "c" and "n", and a range of values for z (e.g., $10 \leq z \leq 50$), determine the values of "z" which satisfy all the conditions.

7P.17 Solve a routine word problem involving modular arithmetic.

INSTRUCTIONAL OBJECTIVES

UNIT 8 - MEASURE

ITEM A - READ GRADUATED SCALES

8A.1 Identify a number obtained by counting as an exact number and a number obtained by measuring as an approximate number.

8A.2 Round off a number (including mixed numbers) to a given unit of precision.

8A.3 Identify a series of consecutive whole numbers or multiples of whole numbers with or without equal subdivisions between numbers on a measuring device, as a graduated scale.

8A.4 Write the size of the interval between:

a. numerals on a graduated scale.
b. subdivisions on a graduated scale.

8A.5 Write the measurement indicated on a sketch of a graduated scale:

a. to the nearest whole number when the scale is marked off in consecutive whole numbers with or without subdivisions.
b. to a given precision when the scale is marked off in multiples of a whole number with or without subdivisions.
c. to a given precision when the scale is marked off in whole numbers with or without subdivisions representing fractions such as halves, quarters, eighths, sixteenths, tenths, or fifths.
d. to a given precision when the scale is marked off in whole numbers which represent multiples of a given number such as 100 or 1000.

8A.6 Write the measurement indicated on a sketch of a combination of scales which may be circular and read in either a clockwise or counterclockwise direction, such as on a gas or electric meter.

8A.7 Write the measurement indicated on a set of interlocking scales such as micrometers and calipers (including vernier instruments).

UNIT 9 - METRIC MEASURE

ITEM A - DISTANCE

9A.1 Identify millimeters, centimeters, decimeters, meters, decameters, hectometers, and kilometers as units of metric distance measure.

INSTRUCTIONAL OBJECTIVES

9A.2 Convert units of distance from one metric unit to another (e.g., one hectometer equals 100 meters).

9A.3 Estimate the length, width, or height of common objects or the distance between objects, to within 20% of the actual distance.

9A.4 Measure a given distance or one dimension object with a ruler or tape measure, correct to within one unit of the scale reading.

ITEM B - DISTANCE CONVERSION

9B.1 Given tables, convert metric distance measurements to English measurements.

9B.2 Given tables, convert English distance measurements to metric measurements.

ITEM C - WEIGHT

9C.1 Identify milligrams, centigrams, decigrams, grams, decagrams, hectograms, kilograms, and metric tons as units of metric weight measure.

9C.2 Convert units of weight from one metric unit to another (e.g., 100 grams equals one hectogram).

9C.3 Estimate the weight of common objects to within 20% of the actual metric weight.

9C.4 Weigh common objects on balance or spring loaded scales, correct to within one unit of the metric scale readings.

ITEM D - WEIGHT CONVERSION

9D.1 Given tables, convert metric weight measurements to English measurements.

9D.2 Given tables, convert English weight measurements to metric measurements.

ITEM E - CAPACITY

9E.1 Identify milliliter, centiliter, deciliter, liter, decaliter, and hectoliter as units of metric capacity.

INSTRUCTIONAL OBJECTIVES

9E.2 Convert units of capacity from one metric unit to another (e.g., 10 liters equals one decaliter).

9E.3 Estimate in metric units the contents or the capacity of common containers, to within 20% of the actual content or or capacity.

9E.4 Measure content or capacity of a container to within one unit of the scale of the measuring instrument.

ITEM F - CAPACITY CONVERSION

9F.1 Given tables, convert metric measures of capacity to English measurements.

9F.2 Given tables, convert English quantities to metric measurements.

ITEM G - TEMPERATURE CONVERSION

9G.1 Identify Centigrade as the metric scale of heat and Fahrenheit as the English measure of heat.

9G.2 Using the formula $T_F = \frac{9}{5} T_C + 32$, convert a given temperature in degrees Centigrade to the Fahrenheit scale.

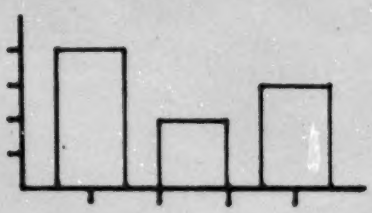
9G.3 Using the formula $T_C = \frac{5}{9} (T_F - 32)$, convert a given temperature in degrees Fahrenheit to degrees Centigrade.

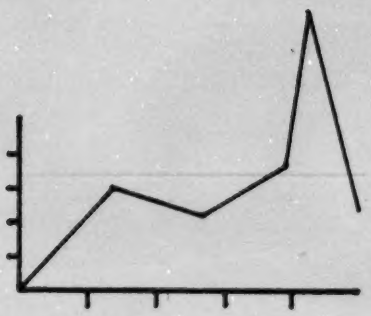
9G.4 Given tables, convert degrees Centigrade to Fahrenheit.

9G.5 Given tables, convert degrees Fahrenheit to Centigrade.

INSTRUCTIONAL OBJECTIVES

UNIT 10 - DRAWINGS and GRAPHS





ITEM A - READ GRAPHS

10A.1 Read specified data from a simple line, bar, or circle graph.

ITEM B - DRAW GRAPHS

10B.1 Given simple data construct line and bar graphs to display a visual representation of the data.

INSTRUCTIONAL OBJECTIVES

UNIT 11 - GEOMETRIC FIGURES

ITEM A - FORMS and FIGURES

11A.1 Identify rectangles, squares, triangles, circles, rectangular solids, cubes, pyramids, cones, cylinders, and spheres from a set of objects, pictures of objects, or names of objects.

11A.2 Identify:

a. rectangles, squares, triangles, and circles as plane figures (two-dimensional).
b. rectangular solids, cubes, pyramids, cones, cylinders, and spheres as solid figures (three-dimensional).

11A.3 Identify rectangles, squares, triangles, circles, rectangular solids, cubes, and cylinders given their definitions or characteristics.

11A.4 Calculate the diagonal of a rectangle or square.

11A.5 Given a group of triangles, identify scalene, isoceles, right, and equilateral triangles.

11A.6 Given a right triangle, identify the hypotenuse and the legs.

11A.7 Given 2 legs of a right triangle, calculate the hypotenuse using the Pythagorean Theorem.

11A.8 Given the hypotenuse and one leg of a right triangle, calculate the other leg using the Pythagorean Theorem.

11A.9 Identify the radius, diameter, circumference, and chord of a given circle.

ITEM B - ANGLES

11B.1 Identify 30°, 45°, 60°, and 90° angles from a set of such angles, without the aid of a protractor.

11B.2 Given a set of angles, identify acute, obtuse, right, straight, and reflex angles.

11B.3 Identify supplementary angles as angles whose sum is 180°, and complementary angles as angles whose sum is 90°.

11B.4 Determine that a quadrilateral or circle has 360°, and a triangle has 180°.

11B.5 Given two of the angles in a triangle, determine the third.

INSTRUCTIONAL OBJECTIVES

11B.6 Given the exterior angle and one of the non-adjacent angles of a triangle, determine the number of degrees in the remaining two angles.

11B.7 Define parallelograms by the properties of their angles and the lengths of their sides.

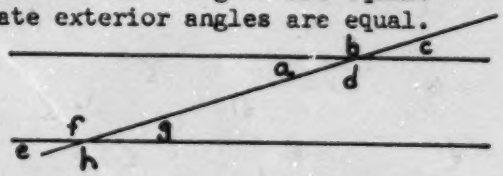
11B.8 Define parallel lines as lines which are equidistant from each other and which do not intersect no matter how far they are produced.

11B.9 Define a transversal as a line which cuts through two or more parallel lines.

11B.10 Identify vertical angles and their properties.

11B.11 Given two parallel lines and a transversal cutting them both, determine that:

a. interior angles lie between the two parallel lines.
b. exterior angles lie outside the two parallel lines.
c. alternate interior angles are equal.
d. alternate exterior angles are equal.



$\angle c = \angle g = \angle a = \angle e$
$\angle f = \angle d = \angle b = \angle h$

11B.12 Identify the properties of similar trangles and determine the lengths of the sides using the proportion method.

11B.13 Identify rectangles, rhombuses and squares as special cases of parallelograms and define each form by angle measures and the length of the sides.

11B.14 Identify regular and irregular polygons.

ITEM C - DRAW/SKETCH

11C.1 Draw angles correct to within 1°.

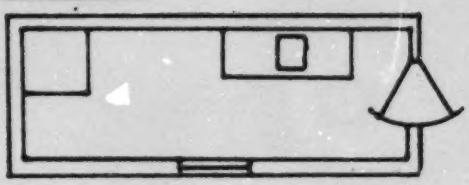
11C.2 Sketch angles correct to within 15°.

11C.3 Draw or sketch (not to scale) (student choice) squares, rectangles, triangles, circles, cubes, rectangular solids, cylinders, cones, and pyramids.

11C.4 Represent, by drawing or sketching (student choice), common objects using oblique projections.

INSTRUCTIONAL OBJECTIVES

UNIT 12 - DRAWINGS and GRAPHS



ITEM A - READ SCALE DRAWINGS

12A.1 Identify 1:4, 6:1, 1" to the foot, 1" = 5 mi., 1:50,000, etc. as examples of scales used to represent reductions or expansions of the actual size of an object.

12A.2 Convert a scale measurement to true size given the scale.

12A.3 Identify a given drawing as a map, blue print, photograph, schematic diagram or assembly (exploded view) drawing.

12A.4 Identify various features on scale drawings such as symbols, rooms, detail drawings.

ITEM B - DRAW TO SCALE

12B.1 Draw a line to a given scale.

12B.2 Draw a plane figure to represent a given flat object to a given scale.

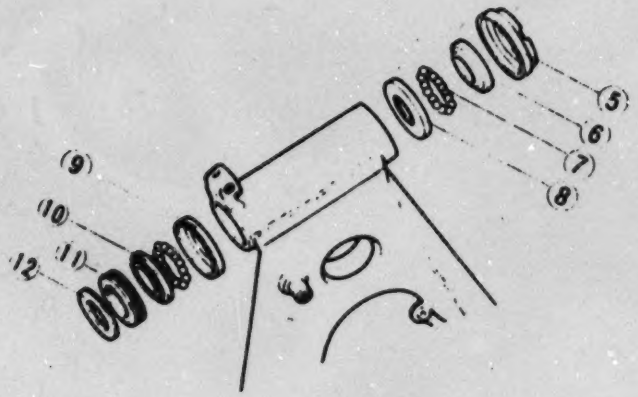
12B.3 Given a compass, right angle triangle, and a ruler, draw to scale front, top, and side representations of common objects which are rectangular solids, cylinders, cones, or pyramids.

NB: Emphasis should not be placed on drafting skills (line weight, corner construction, etc.) or on artistic skills (shading, balance, etc.) but on accuracy of measurements. In other words, can the student construct sketches or drawings which can be accurately read?

ITEM C - MEASURE FROM SCALE DRAWINGS

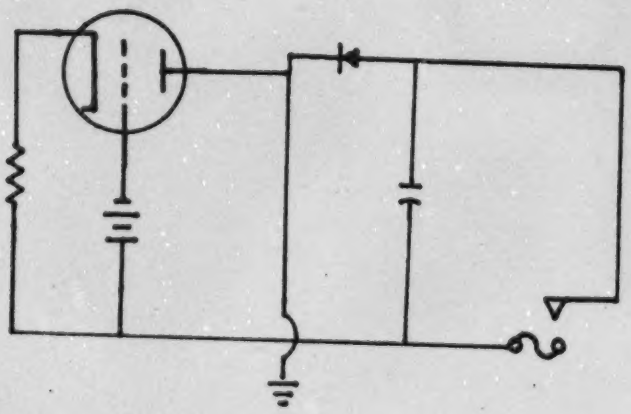
12C.1 Calculate actual dimensions of an object given a ruler and a simple scale drawing of the object.

INSTRUCTIONAL OBJECTIVES



ITEM D - READ ASSEMBLY DRAWINGS

12D.1 Identify the order in which parts are put together in an assembly drawing.



ITEM E - READ SCHEMATIC DRAWINGS

12E.1 Trace a particular sub-system on a simple schematic drawing.

12E.2 Identify the symbols used on schematic drawings.

ITEM F - SHOP DRAWINGS

12F.1 Identify the dimensions on a shop drawing.

12F.2 Identify symbols and abbreviations commonly used on shop drawings.

INSTRUCTIONAL OBJECTIVES

UNIT 13 - READING I

ITEM A - LETTERS OF THE ALPHABET

13A.1 Given letters of the alphabet in manuscript form and in random order, read each letter and pronounce each letter correctly.

13A.2 Given the letters of the alphabet in manuscript form and in random order, read each letter correctly in the proper alphabetical order.

UNIT 14 - BASIC WORD CUES

ITEM A - BEGINNING READING

14A.1 (Auditory Discrimination)

a. Given a list of word pairs orally, student will indicate which word pairs rhyme and which don't.
b. Given a list of word pairs orally, student will indicate which word pairs begin with the same sound and which pairs don't.
c. Given a list of word pairs orally, student will indicate which word pairs have the same vowel sound and which pairs don't.
d. Given a list of word pairs orally, student will indicate which word pairs have the same ending sounds ani which pairs don't.

14A.2 Beginning Consonants: Given a familiar word and a list of consonants the student will make new words by substituting each of the consonants for the initial one in the original word. The student will pronounce each newly formed word correctly.

14A.3 Beginning Consonant Blends: Given orally a list of words which begin with consonant blends, student will correctly identify the letters making the initial blend sound. Initial blends will include:

dr, fr, bl, cl, fl
sc, sm, sp, cr, tr, br
st, gr, pl, sn, sl, sw
gl, sk, pr, str, spr, tw, squ
scr, shr, thr, spl

14A.4 Final Consonants: Given orally a word ending in a consonant and a written list of letters, the student will identify that final consonant on the list.

INSTRUCTIONAL OBJECTIVES

14A.5 Final Consonant Blends: Given orally a list of words which end with consonant blends, student will correctly identify the letters making the final blend sound. Final consonant blends will include:

ft sk st sp ld rd rk rt

nk nd ng nt lm mp

14A.6 Short Vowel Sounds: Given one-syllable words having short vowels in initial or medial position, student will blend the sound patterns together to produce the correct sound.

14A.7 Long Vowel Sounds: Given a list of one syllable words with a short vowel, student will make new words with a long vowel sound by adding a final E and will pronounce the new word correctly.

14A.8 Vowel Diphthongs: Given a list of words having the vowel digraphs au, aw, ew, eu, oo, and ou, the student will pronounce each word correctly.

14A.9 Vowels with "r": Given a list of words containing a single vowel followed by the letter r, student will pronounce each word correctly.

14A.10 Sight Words: Given the Barnes Revised Dolch List of 193 words, student will read all words correctly.

ITEM B - PRE-A.O.K.

14B.1 Given a one-syllable word in which there is a single vowel at the beginning or in the middle, student will pronounce the vowel with a short sound.

14B.2 Given a one-syllable word that has a single vowel at the end, the student will pronounce the vowel with a long sound.

14B.3 Given a one-syllable word with this pattern: CVCE, the student will pronounce the vowel with a long sound.

14B.4 Given the letter combinations: ai, oa, and ea in one-syllable words, the student will pronounce the combination according to the more common pattern of making the first vowel long and the second silent.

14B.5 Given one-syllable words, in which the letter combinations er, ir, and ur appear, the student will pronounce the combinations as (ur).

INSTRUCTIONAL OBJECTIVES

14B.6 Given a one-syllable word in which a is followed by r, the student will pronounce the sound neither long, nor short, but as in the word "car".

14B.7 Given a one-syllable word in which a vowel is followed by two consonants and a final e, the student will pronounce the vowel with a short sound.

14B.8 Given the letters ti, ci, or si in a word, the student will pronounce the combination as "sh".

14B.9 Given a word in which c or g are followed by e, i, or, y, the student will pronounce those letters with a soft sound.

14B.10 Given a list of words, the student will identify those that have a schwa sound in an unstressed syllable.

14B.11 Given a list of words containing the four sounds of "y", the student will pronounce the words correctly.

14B.12 Given a list of words containing the different sounds of "gh" and "ght", the student will pronounce the words correctly.

ITEM C - A.O.K. (BASIC SYLLABICATION)

14C.1 Given a multi-syllable word in which two consonants follow the first vowel, the student will divide that word between the two consonants. (Students will recognize that consonant blends and digraphs are treated as a single consonant.)

14C.2 Given a multi-syllable word in which a single consonant follows the first vowel sound, the student will divide that word in two possible places V/CV VC/V and give three possible pronuuciations. (Vowel as long, short, or schwa)

14C.3 Given a word in which the letters -le follow a consonant, the student will divide the word making the CLE letters a single syllable.

14C.4 Given a word in which there are prefixes or suffixes, the student will syllabicate that word showing that prefixes and suffixes form their own syllables.

ITEM D - ADVANCED (DEVELOPMENTAL) READING

14D.1 Prefixes, suffixes, roots: To state the meanings of common Latin and Anglo-Saxon prefixes, suffixes, and roots.

INSTRUCTIONAL OBJECTIVES

14D.2 Variant spellings: To be able to list different ways to spell the following vowel sounds: ä, ē, ī, ō, o͞o, ū, ô (as in all), ou, oi, o͝o, ĕ, ŭ, ĭ.

14D.3 Accents: To list the 4 basic clues for finding the accented syllable:

Clue I: The accent falls on a root, generally, when one or more prefixes or suffixes are added.

Clue II: The accent generally falls on the syllable that precedes these suffixes: sion, tion, ic.

Clue III: For words of 3 or more syllables, one syllable generally stands between the accented syllable and the silent "e" syllable.

Clue IV: The accent generally falls on the syllable that precedes the vowel "i" when this letter occurs before a final syllable.

14D.4 Contractions and Abbreviations

a. Contractions: To be able to write the long form for common contractions and write contractions for common long forms.

b. Abbreviations: To be able to write given words in abbreviated form and write the long form of given abbreviations.

14D.5 Synonyms, Antonyms, Homonyms

a. Synonyms: To be able to select synonyms for given words.

b. Homonyms: To be able to select and use proper homonyms according to sentence context.

c. Antonyms: To be able to select antonyms for given words.

UNIT 15 - BASIC SIGHT WORDS

ITEM A - GENERAL

15A.1 Read a list of 50 words from a series of commonly used terms (e.g., from the Dolch List).

15A.2 Read words from the labels of frequently-used products or of products used in a given occupation.

INSTRUCTIONAL OBJECTIVES

15A.3 Read and use in an oral sentence words from a list of words common to the vocabulary of a given occupation.

ITEM B - FUNCTIONAL SIGNS

15B.1 Read aloud and explain a series of common functional signs (e.g., safety signs, road signs, etc.).

ITEM C - MEANING FROM CONTEXT

15C.1 Use context to replace nonsense words in given sentences.

15C.2 Select the meaning of words as used in the context of sentences and paragraphs.

15C.3 Use clues in a given sentence to select the correct word to fit in the context of a sentence.

15C.4 Select the meaning from context of familiar words used in ways in which meaning varies.

UNIT 16 - READ II

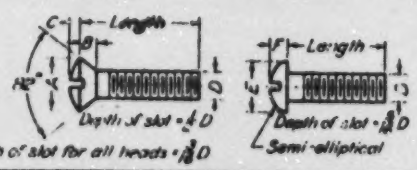
ITEM A - Form

16A.1 Identify a form as a standardized printed document with blank spaces for recording certain needed information.

16A.2 Interpret terminology and abbreviations frequently found in forms.

16A.3 Identify various kinds of forms by stating the kind of information to be recorded.

16A.4 Given a variety of common business forms such as work orders, job orders, issue and receipt vouchers, claims and purchase orders, answer factual questions based on the data on the forms.



Nominal size	Diameter D	Threads per in. (coarse)	Threads per in. (fine)	A	B	C	E	F	G
2	0.086	56	64	0.104	0.040	0.041	0.154	0.066	0.132
3	0.099	48	56	0.190	0.054	0.048	0.178	0.073	0.153
4	0.112	40	48	0.216	0.061	0.054	0.202	0.081	0.175
5	0.125	40	...	0.242	0.080	0.061	0.227	0.089	0.196
6	0.138	32	40	0.268	0.076	0.067	0.250	0.097	0.217
8	0.164	32	36	0.320	0.092	0.080	0.298	0.113	0.260
10	0.190	24	32	0.372	0.107	0.094	0.346	0.130	0.303
12	0.216	24	28	0.424	0.123	0.107	0.395	0.146	0.344
1/4	0.250	20	28	0.492	0.142	0.124	0.458	0.168	0.402
5/16	0.3125	18	24	0.615	0.179	0.155	0.572	0.207	0.507

INSTRUCTIONAL OBJECTIVES

ITEM B - CHARTS AND TABLES

16B.1 Describe the uses of charts and tables and define them as a visual way to give information in a compact and organized form.

16B.2 State the type of information recorded on given charts or tables.

16B.3 Given common reference tables and charts such as organization charts, parts charts, reference tables, including charts and tables designed in matrix form (rows and columns), answer factual questions based on the data supplied.

ITEM C - NOTES, LETTERS, AND MEMOS

16C.1 Given notes, letters, or memos, be able to identify:

a. the author;
b. the recipient;
c. the activities required of the recipient;

and answer factual and interpretative questions from the contents.

ITEM D - MANUALS, REFERENCE BOOKS

16D.1 Identify a manual as a handbook of instructions and/or information related to one topic, and give an example of a manual.

16D.2 Identify the particular kind of information or directions included in a given manual, using the title, table of contents, and/or index as guide.

16D.3 Identify the parts of a given manual which apply to a given situation using the table of contents and/or index as guide.

16D.4 Given a typical parts manual, be able to locate a particular part and answer factual questions about its description (e.g., price, code number, vendor, etc.).

16D.5 Apply instructions or information from a given manual to a particular situation given an oral description of a problem that can be solved using information from the manual.

16D.6 Given a typical company manual or union agreement containing administrative, policy, personnel, and financial rules and regulations, be able to answer factual questions based on the manual for items such as hours of work, rates of pay, vacation or other leave, grievances, promotion, and discipline.

INSTRUCTIONAL OBJECTIVES

ITEM E - THE NEWSPAPER

16E.1 Given a local newspaper, locate and identify orally the various sections using the table of contents, page numbers, and section headings.

16E.2 Given the classified want ads from a local newspaper, locate and answer orally factual questions on such things as rentals, new and used cars, and employment opportunities, demonstrating a knowledge of the abbreviations and terms used in such ads.

16E.3 Given the entertainment or television section from a local newspaper, locate and answer orally factual who, what, where, and when questions demonstrating a knowledge of the terms and abbreviations used in such ads.

ITEM F - THE DICTIONARY

16F.1 List the common uses of a dictionary.

16F.2 Write a given group of words in alphabetical order including cases where alphabetizing to the fifth letter is required.

16F.3 Select entry words from given examples which can be found between the two given guide words from a dictionary.

16F.4 Read the definition of a word and write a sentence that demonstrates the meaning.

16F.5 Read and list the forms of given words from a dictionary (e.g., write: wrote, written, writing).

16F.6 Use the diacritical marks provided in an entry to pronounce given words.

16F.7 Orally explain abbreviations used in the dictionary (e.g., n.; v.t.; chem.; pJ.; Gr; OE).

ITEM G - MAPS

16G.1 Identify a map as a symbolic representation of geographical features.

16G.2 Given a map, identify the region represented.

16G.3 Given a location on a map, use the grid system to read out the map section identifying it (e.g., A-7).

INSTRUCTIONAL OBJECTIVES

16G.4 Identify common symbols used on maps.

16G.5 Using the index, locate cities or points of interest on the map.

16G.6 Find the mileage between two points on the map using mileage charts.

16G.7 Find the mileage between two points using the numbers printed above the roads on the map.

16G.8 Given a starting point, find at least 2 routes to travel to a destination.

16G.9 Given the speed limits of a region, estimate to within 25% the time needed to travel from one point to another.

ITEM H - CONTRACTS

16H.1 Identify a contract as a legal promise between two or more persons or companies.

16H.2 Interpret terminology commonly used on contracts.

16H.3 Given a contract, answer factual questions based on the information supplied therein.

UNIT 17 - READ

ITEM A - LITERAL COMPREHENSION

17A.1 Select appropriate titles for paragraphs, given a list of titles.

17A.2 Match a given list of main ideas to appropriate paragraphs.

17A.3 Identify orally the main idea in a given paragraph.

17A.4 Identify statements as being true or false after reading a given selection.

17A.5 Answer "what," "who," "when," and "where" questions using factual information from an article.

17A.6 List the facts in a selection that support a given statement.

17A.7 Do an exercise that requires recall of given instructions or information.

INSTRUCTIONAL OBJECTIVES

17A.8 Identify the event which occurred first, given a pair of events from a selection.

17A.9 Rewrite or re-number a set of events from a given selection in the order they occur in the selection.

17A.10 Arrange a series of given events into proper time sequence.

17A.11 Write a possible next event given a series of events.

17A.12 List the events in outline form, showing proper sequence from a selection of three or four paragraphs.

17A.13 Given a set of written instructions involving activities to be performed by a number of people, and the particular roles, prepare a list and sequence of activities to be performed.

UNIT 18 - READ

ITEM A - EVALUATIVE COMPREHENSION

18A.1 Define "fact" as a statement that can be shown to be true.

18A.2 Define "opinion" as what a person thinks about any subject.

18A.3 Identify given statements as being fact or opinion.

18A.4 Classify sentences in a given article as fact or opinion.

18A.5 Classify advertisements as based on fact or opinion and support the choice.

18A.6 Identify the author's purpose in a given selection as being to entertain, inform, or persuade.

18A.7 Identify supporting statements in a selection for a given author's purpose.

18A.8 Identify methods used by authors to persuade and appeal to emotions by making opinions appear as facts, such as:

a. transfer: to relate the product for sale to something trusted, loved, or attractive for other reasons (e.g., God, the flag, your country, Mother, a beautiful blonde).
b. card-stacking: to make misleading statements which hide the facts or exaggerate the good qualities of a product. E.g.,
   i. "four out of five doctors say that..." Perhaps only five doctors were asked; the next five might say something different.
   ii. "This product is the best...the cheapest...so easy that a child can run it...none better."

INSTRUCTIONAL OBJECTIVES

c. testimonial: to use the name or testimony of a famous person to endorse the product (e.g., "Joan Goldenhair says that she uses Silky Shampoo every day to keep her hair shining.").
d. bandwagon: to give the idea that everybody, or at least the significant people, are using the product (e.g.,"Everybody loves Scrappy cornflakes; join the gang and try some tomorrow.").

18A.9 Select your opinion from two alternative opinions after reading a selection which attempts to persuade you to a point of view.

18A.10 Write your opinion on a given issue and support it after reading a given selection on that issue.

18A.11 Select your opinion from two contrasting points of view and support your choice.

18A.12 Given a set of general written instructions which necessitate the making of evaluative judgments by the recipients, prepare a list of activities which could be performed, and state the reasons for the choice of activities.

ITEM B - INTERPRETIVE COMPREHENSION

18B.1 Answer "what happened," "how", and "why" questions about a given selection.

18B.2 Answer questions which require a generalized interpretation of facts.

18B.3 Identify the causes or effects of given facts from a selection.

18B.4 List details or statements from a selection which support a given conclusion.

18B.5 State and support a conclusion which can be inferred from a set of facts or from a given article.

18B.6 Answer questions that require a generalized interpretation which can be inferred from given facts and which is not specifically stated in a selection.

18B.7 Write and support a prediction based on the information given in a selection.

18B.8 Given a set of general written instructions, involving activities to be performed by a number of people, and particular roles, prepare a list and sequence of activities to be performed.

INSTRUCTIONAL OBJECTIVES

UNIT 19 - LISTEN

ITEM A - LITERAL COMPREHENSION

19A.1 Identify the correct meanings of words that sound similar but are different in meaning.

19A.2 Provide words which fit the context of given sentences.

19A.3 State the meanings of selected words heard in context.

19A.4 Identify the main idea from a given speech which has just one main idea.

19A.5 State the most important question which a speaker wants answered.

19A.6 Identify the main outcome expected from spoken directions.

19A.7 State the main idea from a spoken statement of several sentences.

19A.8 Identify several important ideas contained in a speech.

19A.9 Identify statements based on given speech as being true or false.

19A.10 Answer "who," "what," "where," "when", and literal "why" questions based on spoken information.

19A.11 List facts from an oral statement which support the main idea.

19A.12 List directions that were given by a speaker.

19A.13 List questions which a speaker asked.

19A.14 Identify the correct order in which a number of events occurred, basing the order on a spoken description of the events.

19A.15 Perform a series of two or three activities which require recall of oral instructions. (The activities to be within the abilities of the student - recall is the item to be demonstrated.)

ITEM B - INTERPRETIVE COMPREHENSION

19B.1 Interpret "what happened," "how," and "why" questions from an oral selection.

19B.2 Identify causes or effects of given situations from an oral selection.

INSTRUCTIONAL OBJECTIVES

19B.3 Answer questions which require a generalized interpretation of facts in an oral selection.

19B.4 State a number of possible results of a situation described orally.

19B.5 Identify what additional information you would like to know after hearing a conversation.

19B.6 State an inference which is implied in given statements.

19B.7 Choose and support a conclusion which can be reached by using facts from an oral selection.

19B.8 State and support a prediction based on information given in a selection.

19B.9 Perform a series of two or three activities which require recall of oral instructions and an interpretation of how the instructions were to be fulfilled. (The activities to be within the abilities of the student - recall and interpretation are the items to be demonstrated.)

ITEM C - EVALUATIVE COMPREHENSION

19C.1 Identify courteous and discourteous words contained in a conversation.

19C.2 Identify words and phrases used by a speaker that suggest his strong feelings about his topic.

19C.3 State what action you should take on the basis of a speaker's message, tone of voice, and manner.

19C.4 State how a speaker's tone and manner indicate his feelings about:

a. his topic,
b. you,
c. another person.

19C.5 State the purpose of a speaker's message.

19C.6 Classify statements as being "fact" or "opinion."

19C.7 Identify opinions in a selection which contains both facts and opinions.

INSTRUCTIONAL OBJECTIVES

19C.8 Identify facts which were used by a speaker to support his opinions.

19C.9 Evaluate a speaker's opinions.

19C.10 Evaluate a speaker's attitude using given criteria.

19C.11 Evaluate a speaker using given criteria.

19C.12 Evaluate a speaker's content using given criteria.

19C.13 Perform a series of two or three activities which require recall of oral instructions and an interpretation and evaluation of how the instructions were to be fulfilled (the activities to be within the abilities of the student - recall, interpretation, and evaluation are the items to be demonstrated).

UNIT 20 - BASIC WRITING SKILLS

ITEM A - LETTERS OF THE ALPHABET

20A.1 Given the letters of the alphabet in manuscript form and random order, write or print the letters in correct order.

ITEM B - COPYING TEXT AND DRAFTS

20B.1 Given words, write or print them correctly.

20B.2 Given sentences, copy them exactly.

20B.3 Given paragraphs, copy them exactly.

20B.4 Given sentences or paragraphs organized in a rigid form (e.g., a business letter, report, etc.), copy exactly.

20B.5 Identify common proofreading marks and briefly explain their meanings.

20B.6 Given a short passage with proofreading marks inserted, correctly copy the passage incorporating the required changes into the text.

UNIT 21 - NAMES, ADDRESSES, DATES, AND TIME

ITEM A - GENERAL

21A.1 Identify seconds, hours, days, months, years, decades, and centuries as units of time.

INSTRUCTIONAL OBJECTIVES

21A.2 Given dates of the year, locate dates on a current calendar.

21A.3 Given a date (day, month, date, year) write the date using correct punctuation and capitalization.

21A.4 Given a standard clock, tell correct time to within 5 minutes of actual time.

21A.5 Given times of the day, be able to write time:

a. 8:00
b. eight o'clock
c. 8 o'clock

21A.6 Explain and use correctly the abbreviations A.M. and P.M.

21A.7 Explain and use correctly such expressions as: quarter to; half past; quarter of; quarter past.

21A.8 Given a list of names and addresses, write items using proper capitalization and punctuation.

UNIT 22 - FORMS AND JOB APPLICATIONS

ITEM A - PHRASES ON FORMS

22A.1 Given simple data in the form of words and figures, write phrases on forms which are legible and which convey the desired information.

ITEM B - SENTENCES ON FORMS

22B.1 Given simple data in the form of words and figures, write complete sentences on forms which are legible and which convey the required information.

22B.2 Complete a sample application form for employment in a legible manner.

22B.3 Complete a sample application for credit, loan application, or check courtesy card in a legible manner.

22B.4 Write a check and complete bank deposit and withdrawal slips in proper form.

22B.5 Complete a sample form used for registration at hotels or motels.

INSTRUCTIONAL OBJECTIVES

22B.6 Complete other forms used locally to make applications for driver's license, automobile registration, electric service, telephone service, etc.

22B.7 Complete state and federal government forms which are in current use for income tax, medical and hospital services, census, Social Security, etc.

22B.8 Complete entrance forms for public and/or private schools and colleges in a neat and readable manner.

ITEM C - GRAMMAR

22C.1 Identify sentence fragments, run-on sentences, and complete sentences.

22C.2 Rewrite sentence fragments and run-on sentences to make complete sentences.

22C.3 Identify simple, complex, and compound sentences.

22C.4 Given two simple sentences, rewrite them to form compound sentences.

22C.5 Given two simple sentences, rewrite them to form a complex sentence.

22C.6 Identify simple subject and simple predicate of a sentence.

22C.7 Identify complete subject and complete predicate of a sentence.

22C.8 Given the subject, supply the predicate.

22C.9 Given the predicate, supply the subject.

22C.10 Identify the direct object of a verb.

22C.11 Identify the indirect object of a verb.

22C.12 Identify predicate nominative and predicate adjective in a sentence.

22C.13 Identify prepositions and their objects.

22C.14 Define a noun as a person, place, or thing.

22C.15 Given a noun, write sentences using it as: subject, direct object, indirect object, predicate nominative, and object of a preposition.

INSTRUCTIONAL OBJECTIVES

22C.16 Form plurals of common nouns.

22C.17 Form possessives of common nouns.

22C.18 Define a pronoun as a word that takes the place of a noun.

22C.19 Given a pronoun, write sentences using it as: subject, direct object, indirect object, predicate nominative, and object of a preposition.

22C.20 Correctly replace possessive nouns with pronouns.

22C.21 Define an active verb as one that shows action and may take a direct or indirect object.

22C.22 Define a passive verb as one that may take a predicate nominative or predicate adjective, but not a direct or indirect object.

22C.23 Given a subject, write a sentence using an active verb.

22C.24 Given a subject, write a sentence using a passive verb.

22C.25 Select and use correct expressions in commonly misused subject-verb and pronoun agreements involving the following types:

a. singular and plural nouns;
b. subjects joined by "and";
c. singular and plural pronouns;
d. verb "to be" (is, are, was, were);
e. subjects separated from the verb by a phrase or clause.

22C.26 Given the infinitive form of a verb and a group of sentences, supply the correct tense of the verb.

22C.27 Define an adjective as a word that modifies a noun or pronoun.

22C.28 Given a group of sentences, supply the correct form of the adjective.

22C.29 Define an adverb as a word that modifies a verb, adjective, or adverb.

22C.30 Rewrite given simple sentences by adding words, phrases, and clauses to modify the subject, verb, and object.

22C.31 Identify a sentence as declarative, interrogative, exclamatory or imperative.

INSTRUCTIONAL OBJECTIVES

22C.32 Given sentence content, rewrite as a question, command, exclamation, or simple statement using correct end punctuation and capitalization.

22C.33 Given a sentence containing a series or list, punctuate correctly with commas.

22C.34 Given a sentence containing independent clauses and/or dependent clauses, punctuate correctly.

22C.35 Given a sentence containing one or more of the following: appositives, direct address, parenthetical remarks, limiting remarks, etc., punctuate correctly.

22C.36 Identify and correctly use in sentences semicolons, colons, and hyphens.

22C.37 Given sentences containing direct quotations, punctuate correctly.

22C.38 Identify and correctly use apostrophes in contractions, possessives, etc.

22C.39 Correct capitalization in a given sentence which requires addition and/or deletion of capitals.

22C.40 Select and use the correct word in given examples of the use of lie, lay; principal, principle; and other pairs often confused.

22C.41 Correctly rewrite sentences containing a double negative.

22C.42 Given unpunctuated sentences, correctly punctuate, using capitalization, commas, quotation marks, etc.

ITEM D - SHORT NOTES

22D.1 Write short notes to self or to others which convey information about appointments, telephone calls received, visitors, etc., a which supply necessary data about who, when, where, what, why, and how.

ITEM E - TAKE NOTES

22E.1 Write down the exact words of a short message given orally.

22E.2 Write the main ideas of a speaker.

INSTRUCTIONAL OBJECTIVES

22E.3 Write notes on details or facts given by a speaker.

22E.4 Record oral information given by filling out an order form or other standard information sheet.

ITEM F - PARAGRAPHS

22F.1 Identify a paragraph as a group of sentences about a single topic or thought.

22F.2 Identify topic sentences in paragraphs.

22F.3 Write a paragraph of four or five sentences given a topic sentence and a set of related facts.

22F.4 Write a paragraph of four or five sentences given a set of related facts.

22F.5 Rewrite a paragraph which contains run-on sentences.

22F.6 Write a paragraph given a series of simple sentences so that events are sequenced and some simple sentences are combined to make compound or complex sentences to vary the sentence structure.

22F.7 Write an outline of an article or a report, to contain four or five paragraphs, which includes the title and the topic sentence of each paragraph.

22F.8 Write a short article or report of four or five paragraphs using proper sentence structure, word usage, punctuation, and paragraph form on a topic of interest.

ITEM G - INTERNAL MEMOS

22G.1 Set up the parts of a business memo in proper form, including sender's name and/or appointment, date, addressee's name and/or appointment, subject heading, body, and signature.

22G.2 Compose business memos in proper form using good sentence and paragraph structure and proper punctuation, from information supplied.

INSTRUCTIONAL OBJECTIVES

ITEM H - PURCHASE ORDERS ETC.

22H.1 Given a typical business form, purchase order, job order, sales slip, and necessary data in words and figures, correctly complete or fill out the appropriate portions of the form.

UNIT 23 - LETTERS

ITEM A - FORM LETTERS

23A.1 Given data and sample form letters, insert the required information on the form letter, such as name, address, date, and fill in blanks.

ITEM B - BUSINESS LETTERS

23B.1 Set up the parts of a business letter in proper form, (sender's address, data, addressee's address, salutation, body, complimentary close, and signature).

23B.2 Given the information for a letter, organize the body of the letter into a logical sequence, such as the following:

a. an introduction which describes the purpose or aim of the letter (why it is being written).
b. a background or history so the reader can understand the discussion which follows.
c. the discussion necessary for the reader to know the current facts on the arguments presented.
d. a closure which includes the recommendation, decision, action requested, or summary.

23B.3 Write the long form of abbreviations commonly used in business letters (e.g., cc, encl., etc.) or common business abbreviations (e.g., Inc., Ltd., F.O.B., etc.).

23B.4 Compose business letters in proper form, using good sentence and paragraph structure, logical sequences, and proper punctuation and spelling, from information supplied.

23B.5 Address an envelope showing sender's name and address, addressee's name and address, and postal codes, in correct format, and punctuate it correctly.

UNIT 24 - WRITING STYLE

Objectives for this unit have not yet been established.

INSTRUCTIONAL OBJECTIVES

UNIT 25 - SPEAKING ABILITY

ITEM A - INFORMATION OR DIRECTIONS

25A.1 Repeat information which has been heard.

25A.2 Describe orally, in a few short sentences, information about a given person, place, thing, or job performed.

25A.3 Answer questions orally about material read (such as a note, memo, or letter).

25A.4 Describe an experience or some event that was witnessed (or read about).

25A.5 Organize and express directions in a logical sequence.

25A.6 Explain to someone else how to perform a fairly complex task, given experience at performing the task, or having learned from another person or a manual how to perform the task.

NB: These objectives are intended to develop skills of imparting information and instructions. The exercises and tests should be carefully designed to ensure that the ability to effectively express information or directions (rather than memory) is being tested.

ITEM B - ELEMENTARY CONVERSATION

25B.1 Demonstrate an effective and appropriate speaking voice and style.

25B.2 State and support own points by citing knowledge, experience, or observation related to the discussion.

25B.3 Insure that the other person has the opportunity to state and support his points of view.

ITEM C - USE TELEPHONE

25C.1 Write the telephone number of a given person or organization using the alphabetical listing section of a telephone directory as reference.

25C.2 Identify local call, person-to-person long distance call, station-to-station long distance call, collect call, and direct distance dial call given a description of each.

INSTRUCTIONAL OBJECTIVES

25C.3 List the steps in using the telephone to:

a. get the time of day;
b. get a number of a person or organization for a local or long distance call;
c. make a person-to-person long distance call;
d. make a station-to-station long distance call through the operator;
e. make a collect call;
f. make a direct distance dial call to a point with the same and different area codes;
g. report that a telephone is not operating properly;
h. report an incorrectly dialed direct distance dial call.

25C.4 List the names and telephone numbers of businesses dealing in a given article or service using the Yellow Pages as reference.

25C.5 Write the address of a given person or organization using the telephone directory as reference.

25C.6 Practice, using inter-office or simulated phones, making and receiving a variety of local and long-distance telephone calls.

ITEM D - GIVE DIRECTIONS

25D.1 Preface a job conversation with a statement of purpose.

25D.2 Present directions in a sequenced, organized,and concise manner orally to another.

25D.3 Ensure other has the opportunity to clarify his understanding of the directions presented.

25D.4 Summarize the directions presented to reinforce other's understanding.

25D.5 Check other's understanding of directions by questioning.

UNIT 26 - ORGANIZE INFORMATION

ITEM A - SORT DATA

26A.1 Sort data by given classification criteria. (E.g., alphabetical order.)

NB: The data can be in the forms of lists, numbers, words, or on forms such as issue and receipt vouchers.

INSTRUCTIONAL OBJECTIVES

ITEM B - SORT OBJECTS

26B.1 Given objects, sort by given classification criteria. The sorting should require a minimum of judgment. To oversimplify, sorting apples by types or tools by various generic classifications would be appropriate, but sorting apples by quality or lumber by grades is a rating skill.

ITEM C - RANK

26C.1 Arrange, order, tabulate, or sequence information in a required ranking system.

ITEM D - DEVELOP CLASSIFICATIONS

26D.1 Set up a classification system for sorting of given data or objects.

PB: The data/objects should be presented in a way to show an apparent need to sort for a specific reason as filing, warehousing, or summarizing. The student must be told "why" so he can demonstrate mastery of "how."

UNIT 27 - TOOLS, EQUIPMENT AND MATERIALS

ITEM A - USE OF TOOLS AND INSTRUMENTS

27A.1 Using tools or instruments common to a given profession, demonstrate a knowledge of the proper care and use of the tools and instruments.

ITEM B - SELECTION OF TOOLS, EQUIPMENT, AND MATERIALS

27B.1 Given the name and description of a simple task and the applicable part of a manual or guide, determine:

a. the required tools, materials, and equipment;
b. the method or procedure to be used to perform the task;
c. the sequence in which the task should be performed.

27B.2 Find the relevant section of a manual and perform the above objective.

INSTRUCTIONAL OBJECTIVES

27B.3 Select the relevant manual from among several and perform the above task.

ITEM C - SELECTION OF PROCEDURES AND METHODS

27C.1 Given a random-order set of several tasks which are part of a simple and familiar job in which there is an obvious, inherent linear order (one task must be completed before the next task begins), relist the tasks in order of performance.

27C.2 Given a random-order set of several tasks which are part of a simple and familiar job in which there is an obvious, inherent non-linear order (two or more tasks which would be carried out during the same time frame), relist the tasks in order of performance, showing options where tasks can be carried out concurrently.

27C.3 Given a description of a familiar job, break it down into the major tasks and list the tasks in order of performance, showing options where tasks can be carried out concurrently.

ITEM D - ANALYSIS

27D.1 Establish a personal learning goal in measurable terms, and then list and prioritize the activities to be performed to achieve this goal.

27D.2 Analyze the results of the above objective in terms of meeting the stated goal and evaluate how each of the activities assisted in goal achievement.

AN EXPLANATION AND SOME IDEAS ON DEVELOPING MATERIALS TO TEACH TO THE INSTRUCTIONAL OBJECTIVES

In order to assemble effective individualized teaching materials to teach to the Instructional Objectives listed in the accompanying Taxonomy of Instructional Objectives, the ACE staff surveyed existing ABE materials and selected pretests/posttests and exercises from among them which addressed the specific skill of the objective. Many materials had to be developed. Most were taken from commercially published workbooks.

It was never the contract and the responsibility of the project to distribute the instructional materials used at ACE but as the Instructional File was developed, it became obvious that it would be valuable to ABE teachers and so it was planned to distribute it - as a complement to the job descriptions and the Basic Skills Instructional Management System based on them.

Unfortunately, in November, 1976, the Copyright law was revised and is much more specific than the previous law in dealing with copying workbooks intended for student use. Now no copies of consumable books may be made. ACE is therefore prohibited from circulating the materials.

The following sequence details a process which others might wish to use to develop specific teaching materials for each Instructional Objective.

(1) Select a group of related Instructional Objectives. Examine each carefully to establish exactly the process being described.

(2) Go through all the books you feel are successful with students and include the exercises in the appropriate folders. Include as many exercises as you like in any folder.

(3) Examine the ACE bibliography. It lists the materials we surveyed. It notes those which were espcially useful. Examine the Instructional Manual for a selected list.

(4) Find exercises which fit the Instructional Objective exactly. (Many workbooks jumble processes together - make sure that the processes required are exactly the ones you'll want to teach when using that exercise).

(5) Code a folder with the Instructional Objective number;. cut the exercises out of the books and include them in the folder.

(6) Once you've been through all your favorite books, sort through the materials in each file. Select the exercise which most exactly fits the Instructional Objective and label it "Pretest/Posttest" and type the Instructional Objective on the top.. Establish a criterion for meeting the objective. ACE customarily used 80 or 90% as the criterion.

(7) Assemble the remaining exercises in a developmental sequence and label them indicating the use they would best serve.

(8) Note in the folders those kits, books and systems which are particularly effective at helping students acquire the described skill.

(9) Fill in the gaps by searching out new materials or creating them.

(10) Plastic sleeves which encase the page and can be written on are available from stationers and school supply houses. Erasure is easy. This permits legal reuse of the exercises and is economical.

The ACE staff would like to work with interested teachers to develop instructional modules around clusters of Instructional Objectives or around ACE job descriptions and would be willing to assist you in exchanging your materials with others who have developed materials to use with the ACE system. Perhaps these materials could be modular, similar to modules developed by teachers in the CACE project. Let us know if you do develop instructional materials using the ACE materials - others will want them!

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WHOLE NUMBERS

1A.	Read, Write and Count	[1] [2] [3] [4] [5] [6]
1B.	Add and Subtract	[1] [2] [3] [4] [5] [6]
1C.	Multiply and Divide	[1] [2] [3] [4] [5] [6]
1D.	Combination of Function Problems	[1]
1E.	Round Off	[1]

FRACTIONS

2A.	Read and Write	[1a] [1b] [2] [3] [4] [5] [6] [7] [8]
2B.	Add and Subtract	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
2C.	Multiply and Divide	[1] [2] [3] [4] [5] [6] [7]
2D.	Combination of Function Problems	[1]

DECIMALS

3A.	Read, Write and Count	[1] [2] [3]
3B.	Add and Subtract	[1] [2] [3] [4]
3C.	Multiply and Divide	[1] [2] [3] [4] [5] [6] [7]
3D.	Round Off	[1]
3E.	Dollars and Cents	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12]
3F.	Combination and Function Problems	[1] [2]

PERCENT

4A.	Read and Write	[1] [2]
4B.	Percentage Calculation	[1] [2] [3]
4C.	Word Problems	[1] [2] [3] [4] [5]

MIXED OPERATIONS

5A.	Equivalents	[1] [2] [3] [4] [5]
5B.	Problems with Mixed Functions with Varied Types of Numbers	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11]
5C.	Ratio	[1] [2] [3]
5D.	Proportion	[1] [2] [3] [4]
5E.	Distance, Time, Rate	[1]

MEASURE, ESTIMATE, CALCULATE

6A.	Areas	[1] [2] [3] [4a] [4] [5] [6] [7] [8] [9]
6B.	Perimeters	[1] [2] [3] [4] [5] [6] [7]
6C.	Volumes	[1] [2] [3] [4] [5] [6]
6D.	Capacity	[1] [2] [3]
6E.	Weight	[1] [2] [3]
6F.	Distance	[1] [2] [3]
6G.	Time	[1] [2] [3] [4] [5] [6] [7]
6H.	Costs	[1] [2] [3] [4] [5]
6I.	Conversion, English Units	[1] [2] [3] [4]

ALGEBRA

7A.	Symbols and Terminology	[1] [2] [3]
7B.	Directed Numbers	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
7C.	Formula Solution	[1] [2]
7D.	One-Variable Open Sentences	[1] [2] [3]
7E.	Progressions and Series	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16]
7F.	Exponents and Polynominals	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11]
7G.	Special Products and Factoring	[1] [2] [3] [4] [5] [6] [7] [8] [9]
7H.	Radicals, Rational and Irrational Numbers and Quadratic Equation	[1] [2] [3] [4] [5] [6] [7]
7I.	Graphs	[1] [2] [3] [4] [5] [6]
7J.	Sentences in Two Variables	[1] [2] [3] [4] [5] [6] [7]
7K.	Matrices	[1] [2] [3]
7L.	Permutations and Combinations	[1] [2] [3] [4] [5] [6] [7] [8] [9]
7M.	Probabilities	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14]
7N.	Number Bases	[1] [2] [3] [4] [5] [6] [7] [8] [9]
7O.	Set Theory	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11]
7P.	Group Theory	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17]

MEASURE	
8A. Read Graduated Scales	[1] [2] [3] [4] [5] [6] [7]
METRIC MEASURE	
9A. Distance	[1] [2] [3] [4]
9B. Distance Conversion	[1] [2]
9C. Weight	[1] [2] [3] [4]
9D. Weight Conversion	[1] [2]
9E. Capacity	[1] [2] [3] [4]
9F. Capacity Conversion	[1] [2]
9G. Temperature Conversion	[1] [2] [3] [4] [5]
DRAWINGS AND GRAPHS	
10A. Read Graphs	[1]
10B. Draw Graphs	[1]
GEOMETRIC FIGURES	
11A. Forms and Figures	[1] [2] [3] [4] [5] [6] [7] [8] [9]
11B. Angles	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14]
11C. Draw/Sketch	[1] [2] [3] [4]
DRAWINGS AND GRAPHS	
12A. Read Scale Drawings	[1] [2] [3] [4]
12B. Draw to Scale	[1] [2] [3]
12C. Measure From Scale Drawings	[1]
12D. Read Assembly Drawings	[1]
12E. Read Schematic Drawings	[1] [2]
12F. Shop Drawings	[1] [2]

INSTRUCTIONAL OBJECTIVES

READING I	
13A. Letters of the Alphabet	[1] [2]
BASIC WORD CUES	
14A. Beginning Reading	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
14B. Pre-A.O.K.	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12]
14C. A.O.K. (Basic Syllabication)	[1] [2] [3] [4]
14D. Advanced (Developmental) Reading	[1] [2] [3] [4] [5]
BASIC SIGHT WORDS	
15A. General	[1] [2] [3]
15B. Functional Signs	[1]
15C. Meaning from Context	[1] [2] [3] [4]
READING II	
16A. Form	[1] [2] [3] [4]
16B. Charts and Tables	[1] [2] [3]
16C. Notes, Letters and Memos	[1]
16D. Manuals, Reference Books	[1] [2] [3] [4] [5] [6]
16E. The Newspaper	[1] [2] [3]
16F. The Dictionary	[1] [2] [3] [4] [5] [6] [7]
16G. Maps	[1] [2] [3] [4] [5] [6] [7] [8] [9]
16H. Contracts	[1] [2] [3]
17A. Literal Comprehension	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13]
READING III	
18A. Evaluative Comprehension	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12]
18B. Interpretive Comprehension	[1] [2] [3] [4] [5] [6] [7] [8]
LISTEN	
19A. Literal Comprehension	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15]
19B. Interpretive Comprehension	[1] [2] [3] [4] [5] [6] [7] [8] [9]
19C. Evaluative Comprehension	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13]
BASIC WRITING SKILLS	
20A. Letters of the Alpahbet	[1]
20B. Copying Texts and Drafts	[1] [2] [3] [4] [5] [6]
NAMES, ADDRESSES, DATES and TIME	
21A. General	[1] [2] [3] [4] [5] [6] [7] [8]
FORMS AND JOB APPLICATIONS	
22A. Phrases on Forms	[1]
22B. Sentences on Forms	[1] [2] [3] [4] [5] [6] [7] [8]
22C. Grammar	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42]
22D. Short Notes	[1]
22E. Take Notes	[1] [2] [3] [4]
22F. Paragraphs	[1] [2] [3] [4] [5] [6] [7] [8]
22G. Internal Memos	[1] [2]
22H. Purchase Orders, etc.	[1]
LETTERS	
23A. Form Letters	[1]
23B. Business Letters	[1] [2] [3] [4] [5]
WRITING STYLE	
(objectives not yet established)	

SPEAKING ABILITY

25A.	Information or Directives	[1] [2] [3] [4] [5] [6]
25B.	Elementary Conversation	[1] [2] [3]
25C.	Use Telephone	[1] [2] [3] [4] [5] [6]
25D.	Give Directions	[1] [2] [3] [4] [5]

ORGANIZE INFORMATION

26A.	Sort Data	[1]
26B.	Sort Objects	[1]
26C.	Rank	[1]
26D.	Develop Classification	[1]

TOOLS, EQUIPMENT AND MATERIALS

27A.	Use of Tools and Instruments	[1]
27B.	Selection of Tools, Equipment and Materials	[1] [2] [3]
27C.	Selection of Procedures and Methods	[1] [2] [3]
27D.	Analysis	[1] [2]

READING

Do	Item		Score	Criterion	Date Completed
	1A.1	COPY SERIES OF NUMERALS			
	1A.2	IDENTIFY PLACE VALUE, 7 DIGITS			
	1A.3	READ AND WRITE IN WORDS (9,876,421)			
	1A.4	WRITE (9,876,421) GIVEN WORD NAME			
	1A.5	COUNT UP TO 100 OBJECTS			

(WHOLE NUMBERS)
OBJECTIVE 1A READ, WRITE, COUNT
NAME: _____
CBJD: _____
Formerly Page 279

Page 269 & 270

Do	Item		Score	Criterion	Date Completed
	1B.1	8 + 5			
	1B.2	64,932 + 71,849			
	1B.3	8 - 5			
	1B.4	71,849 - 64,932			
	1B.5	WORD PROBLEM + AND/OR -			
	1B.6	1B.1 - 1B.5 WITH CALCULATOR			

(WHOLE NUMBERS)
OBJECTIVE 1B ADD AND SUBTRACT
NAME: _____
CBJD: _____
Formerly Page 281

Page 271 & 272

Do	Item		Score	Criterion	Date Completed
	1C.1	6 x 2			
	1C.2	563 x 84.227			
	1C.3	6 ÷ 2			
	1C.4	84.227 ÷ 563			
	1C.5	WORD PROBLEM x AND/OR ÷			
	1C.6	1C.1 - 1C.5 WITH CALCULATOR			

(WHOLE NUMBERS)
OBJECTIVE 1C MULTIPLY AND DIVIDE
NAME: _____
CBJD: _____
Formerly Page 283

Page 273 & 274

Do	Item		Score	Criterion	Date Completed
	1D.1	+, -, x, AND ÷ IN ONE PROBLEM			
	1E.1	ROUND TO NEAREST 10/100/1,000/10,000/100,000			

(WHOLE NUMBERS)
OBJECTIVE 1D COMB. OF FUNCTION
1E ROUND OFF
NAME: _____
CBJD: _____
Formerly Page 285

Page 275 & 276

Do	Item		Score	Criterion	Date Completed
	2A.1	NAME FRACTION			
	2A.2	REDUCE TO LOWEST TERMS			
	2A.3	5-3/4 = 23/4; 23/4 = 5-3/4			
	2A.4	1/4 = ?/8, /16; 3/4 = 9/?, 12/?			
	2A.5	ARRANGE IN ORDER: 3/4, 1, 5/6, 2/5, 3/8			
	2A.6	35 = ?/? of 140; REDUCE			

(FRACTIONS)
OBJECTIVE 2A READ AND WRITE
NAME: _____
CBJD: _____
Formerly Page 287

Page 277 & 278

Do	Item		Score	Criterion	Date Completed
	2B.1	ADD LIKE DENOMINATORS			
	2B.2	ADD UNLIKE DENOMINATORS			
	2B.3	2-3/4 + 5½ + 4-3/8			
	2B.4	4½ + 3-1/5 + 3/8			
	2B.5	SUBTRACT LIKE DENOMINATORS			
	2B.6	SUBTRACT UNLIKE DENOMINATORS			
	2B.7	14-1/5 - 9-3/5			
	2B.8	14-1/5 - 9-2/3			
	2B.9	WORD PROBLEMS WITH + AND/OR -			
	2B.10	2B.1 - 2B.9 WITH CALCULATOR			

(FRACTIONS)
OBJECTIVE: 2B ADD AND SUBTRACT
NAME: _____
CBJD: _____
Formerly Page 289

Page 279 & 280

Do	Item		Score	Criterion	Date Completed
	2C.1	2 x 3/4; 3/4 x 2/3			
	2C.2	2 x 3-3/4; 3-3/4 x 5-1/3			
	2C.3	2/3 x 5-3/4 x 3			
	2C.4	2/3 ÷ 6; 2/3 ÷ 3/4; 6 ÷ 3/4			
	2C.5	2½ ÷ 3; 2½ ÷ 3/4; 2½ ÷ 6-3/4			
	2C.6	WORD PROBLEM WITH x AND/OR ÷			
	2C.7	2C.1 - 2C.6 WITH CALCULATOR			
	2D.1	[3/4 ÷ 2/3) ÷ 3½] x 1/5			

(FRACTIONS)
OBJECTIVE: 2C MULTIPLY & DIVIDE
2 D COMB. OF FUNCTIONS
NAME: _____
CBJD: _____
Formerly Page 291

Page 281 & 282

Do	Item		Score	Criterion	Date Completed
	3A.1	READ AND WRITE NAME IN WORDS: .3491			
	3A.2	WRITE .3491, GIVEN WORD NAME			
	3A.3	ARRANGE IN ORDER: .89, .98, .99, 8.9, .8, .9			
	3B.1	ADD SET OF DECIMAL FRACTIONS			
	3B.2	SUBTRACT ONE DECIMAL FRACTION FROM ANOTHER			
	3B.3	WORD PROBLEM + AND/OR -			
	3B.4	3B.1 - 3B.3 WITH CALCULATOR			

(DECIMALS)
OBJECTIVE: 3A READ, WRITE, COUNT
3B ADD AND SUBTRACT
NAME: _____
CBJD: _____
Formerly Page 293

Page 283 & 284

Do	Item		Score	Criterion	Date Completed
	3C.1	123.84 x 625.6 = (WITH AND WITHOUT ROUNDING)			
	3C.2	6.345 x .001, .01, .1 = 1.000 (WITHOUT WRITING)			
	3C.3	5 ÷ 3; 3 ÷ 5; 6.314 ÷ 27			
	3C.4	6.314 ÷ 5.67; 21 ÷ 5.67			
	3C.5	6.345 ÷ .001; (÷ .01...→ 1.000) (WITHOUT WRITING)			
	3C.6	WORD PROBLEM WITH x AND/OR ÷			
	3C.7	3C.1 - 3C.6 WITH CALCULATOR			
	3D.1	ROUND TO 4 DIFFERENT DECIMAL PLACES			

(DECIMALS)
OBJECTIVE: 3C MULTIPLY AND DIVIDE
3D ROUND OFF
NAME: _____
CBJD: _____
Formerly Page 295

Page 285 & 286

Do	Item		Score	Criterion	Date Completed
	3E.1	READ AND WRITE IN WORDS: $9,873,421.36			
	3E.2	GIVEN NAME WRITE IN NUMERALS: $9,873,421.36			
	3E.3	ADD COLUMNS WITH NUMBER UP TO: $9,999.99			
	3E.4	$10,000.00 - $8,762.45 =			
	3E.5	FIND COST OF 25 ITEMS OF EQUAL VALUE			
	3E.6	GIVEN TOTAL FIND COST OF 1 OF 25			
	3E.7	ROUND TO NEAREST CENT			
	3E.8	ROUND TO NEAREST $1, $10, $100, $1,000			
	3E.9	3E.3 - 3E.6 WITH CALCULATOR			
	3E.10	COUNT DENOMINATIONS AND STATE AMOUNT			

DECIMALS)
OBJECTIVE: 3E DOLLARS AND CENTS
NAME: _____
CBJD: _____
Formerly Page 297

Page 287 & 288

Do	Item		Score	Criterion	Date Completed
	3F.1	2 OR MORE FUNCTIONS (+, −, x, ÷)			

OBJECTIVE (DECIMALS) 3F COMB. OF FUNCTION

NAME _____

CBJD _____

Formerly Page 299

Page 289 & 290

Do	Item		Score	Criterion	Date Completed
	4A.1	IDENTIFY 80/100 AS EQUIVALENT TO 80%			
	4A.2	GIVEN 80% WRITE EIGHTY PER CENT			
	4B.1	5.7% OF 17.43 =			
	4B.2	12 IS ? PER CENT OF 60.5			
	4B.3	5.5% OF ? = 60.5			

OBJECTIVE (PER CENT) 4A READ AND WRITE 4B PERCENTAGE

NAME _____

CBJD _____

Formerly Page 301

Page 291 & 292

Do	Item		Score	Criterion	Date Completed
	5A.1	CONVERT .125 TO 1/8 AND VICE VERSA			
	5A.2	CONVERT 12½% TO 1/8 AND VICE VERSA			
	5A.3	CONVERT .125 TO 12½% AND VICE VERSA			
	5A.4	DO 5A.2 USING TABLES			
	5A.5	WRITE COMMON EQUIVALENTS FROM MEMORY			
	5B.1	WORD PROBLEM			
	5B.2	CALCULATOR			

OBJECTIVE (MIXED OPERATIONS) 5A EQUIVALENTS 5B MIXED FUNCTION

NAME _____

CBJD _____

Formerly Page 303

Page 293 & 294

Do	Item		Score	Criterion	Date Completed
	5C	RATIO			
	5D	PROPORTION			

OBJECTIVE (MEASUREMENT) 5C RATIO 5D PROPORTION

NAME _____

CBJD _____

Formerly Page 305

Page 295 & 296

Do	Item		Score	Criterion	Date Completed
	6D.1	ADD AND SUBTRACT UNITS LIQUID MEASURE			
	6D.2	MEASURE LIQUID IN CONTAINER			
	6D.3	ESTIMATE CUBIC MEASUREMENT			

OBJECTIVE (MEASUREMENT) 6D CAPACITY

NAME _____

CBJD _____

Formerly Page 307

Page 297 & 298

Do	Item		Score	Criterion	Date Completed
	6E.1	ADD AND SUBTRACT WEIGHT MEASURES			
	6E.2	WEIGH COMMON OBJECTS			
	6E.3	ESTIMATE WEIGHT OF COMMON OBJECTS			

(MEASUREMENT)
OBJECTIVE 6E WEIGHT
NAME: _____
CBJD: _____

Formerly Page 309

Page 299 & 300

Do	Item		Score	Criterion	Date Completed
	6F.1	ADD AND SUBTRACT UNITS OF DISTANCE			
	6F.2	MEASURE WITH RULER OR TAPE			
	6F.3	ESTIMATE DIMENSIONS AND DISTANCE			

(MEASUREMENT)
OBJECTIVE 6F DISTANCE
NAME: _____
CBJD: _____

Formerly Page 311

Page 301 & 302

Do	Item		Score	Criterion	Date Completed
	14A.1	AUDITORY DISCRIMINATION a, b, c, d		90%	
	14A.2	BEGINNING CONSONANTS		17/19	
	14A.3	BEGINNING CONSONANT BLENDS		27/31	
	14A.4	FINAL CONSONANTS		13/15	
	14A.5	FINAL CONSONANT BLENDS		13/14	
	14A.6	SHORT VOWEL SOUNDS		19/21	
	14A.7	LONG VOWEL SOUNDS		9/10	
	14A.8	VOWEL PAIRS		18/20	
	14A.9	VOWELS WITH "R"		18/20	
	14A.10	SIGHT WORDS, DOLCH LIST		180/193	

OBJECTIVE 14A BEGINNING READING
NAME: _____
CBJD: _____

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Page 303 & 304

Do	Item		Score	Criterion	Date Completed
	14B.1	SHORT VOWELS		18/20	
	14B.2	LONG VOWELS		18/20	
	14B.3	LONG VOWELS WITH "E"		18/20	
	14B.4	"AI," "OA," "EA"		18/20	
	14B.5	"ER," "IR," "UR"		18/20	
	14B.6	"AR"		9/10	
	14B.7	VOWELS FOLLOWED BY 2 CONSONANTS & SILENT "E"		9/10	
	14B.8	"TI," "CI," "SI"		13/15	
	14B.9	SOFT AND HARD "C," "G"		25/28	
	14B.10	SCHWA		90%	

OBJECTIVE 14B PRE-A.O.K.
NAME: _____
CBJD: _____

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Page 305 & 306

Do	Item		Score	Criterion	Date Completed
	14C.1	VCCV PATTERN WORDS		9/10	
	14C.2	VCV PATTERN WORDS		9/10	
	14C.3	"LE" PATTERN		7/8	
	14C.4	PREFIXES, SUFFIXES		13/15	

OBJECTIVE 14C - A.O.K
NAME: _____
CBJD: _____

Formerly Page 317

Page 307 & 308

Do	Item		Score	Criterion	Date Completed
	14D.1	MEANINGS OF PREFIXES, SUFFIXES, ROOTS		50/65	
	14D.2	VARIANT SPELLINGS FOR SOUNDS		45/51	
	14D.3	ACCENTS		9/10	
	14D.4	CONTRACTIONS, ABBREVIATIONS		23/24	
	14D.5	SYNONYMS, ANTONYMS, HOMONYMS		H-18/20	
				S-A-36/40	

OBJECTIVE 14D ADVANCED READING

NAME. _____

CBJD _____

Formerly Page 319

Do	Item		Score	Criterion	Date Completed
	14E.1	MICHIGAN SPELLING LEVEL I		90%	
	14E.1	MICHIGAN SPELLING LEVEL II		90%	
	14E.1	MICHIGAN SPELLING LEVEL III		90%	
	14E.1	MICHIGAN SPELLING LEVEL IV		90%	
	14E.1	MICHIGAN SPELLING LEVEL V		90%	
	14E.1	MICHIGAN SPELLING LEVEL VI		90%	
	14E.1	MICHIGAN SPELLING LEVEL VI		90%	
	14E.1	MICHIGAN SPELLING LEVEL VI		90%	

OBJECTIVE 14E.1 SPELLING

NAME. _____

CBJD _____

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Do	Item		Score	Criterion	Date Completed
	14E.2	R.S.V.P. BOOK 3 LESSONS 1 and 2		90%	
	14E.2	R.S.V.P. BOOK 3 3 and 4		90%	
	14E.2	R.S.V.P. BOOK 3 5 and 6		90%	
	14E.2	R.S.V.P. BOOK 3 7 and 8		90%	
	14E.2	R.S.V.P. BOOK 3 9 and 10		90%	
	14E.2	R.S.V.P. BOOK 3 11 and 12		90%	
	14E.2	R.S.V.P. BOOK 3 13 and 14		90%	
	14E.2	R.S.V.P. BOOK 3 15 and 16		90%	
	14E.2	R.S.V.P. BOOK 3 17 and 18		90%	
	14E.2	R.S.V.P. BOOK 3 19 and 20		90%	

OBJECTIVE 14E.2 SPELLING

NAME. _____

CBJD _____

Formerly Page 323

Do	Item		Score	Criterion	Date Completed
	14F.1	CLOZE EXERCISES TEST 1		90%	
		TEST 2		90%	
		TEST 3		90%	
	14F.2	CONTEXT CLUES, USING THE CONTEXT B		90%	
		C		90%	
		D		90%	
		E		90%	
		F		90%	
		Adv		90%	
	14F.3	JOB RELATED VOCABULARY		90%	

OBJECTIVE 14F VOCABULARY

NAME. _____

CBJD _____

Formerly Page 325

Do	Item			Score	Criterion	Date Completed
	17 A	MAIN IDEA	A		90%	
		S.S. "GETTING THE MAIN IDEA"	B		90%	
			C		90%	
	17 B	RECALLING DETAILS	A		90%	
		S.S. "GETTING THE FACTS"	B		90%	
			C		90%	
	17 C	FOLLOWING SEQUENCE	A		90%	
		S.S. "DETECTING THE SEQUENCE"	B		90%	
			C		90%	
			D		90%	

(LEVEL I)

OBJECTIVE 17 READING COMP.

NAME. _____

CBJD _____

Formerly Page 327

PAGES 309 through 312

Do	Item		Score	Criterion	Date Completed
	22C.1	DEFINE A SENTENCE			
	22C.2	IDENTIFY SENTENCES AND NON-SENTENCES			
	22C.3	IDENTIFY COMPLETE SUBJ. AND COMPLETE PRED.		90%	
	22C.5	COMPLETE A SENTENCE GIVEN SUBJECT			
	22C.6	COMPLETE A SENTENCE GIVEN PREDICATE			
	22C.23	WRITE SENTENCE GIVEN SENTENCE CONTENT		90%	

(ITEMS 1, 2, 3, 5, 6, 23
OBJECTIVE: 22 C WHAT IS A SENTENCE
NAME: _____ Formerly
CBJD: _____ Page 327

Pages 313 & 314

Do	Item		Score	Criterion	Date Completed
	22C.16	IDENTIFY SIMPLE SUBJECT/SIMPLE PRED.			
	22C.17	IDENTIFY SIMPLE OBJECTS OF VERBS			
	22C.18	IDENTIFY MODIFIERS AS WORDS, PHRASES, CLAUSES			
	22C.19	IDENTIFY MODIFIERS OF SUB., VERB, OBJECTS			
	22C.20	REWRITE GIVEN SENTENCE OMITTING MODIFIERS			
	22C.21	REWRITE GIVEN SENTENCE ADDING MODIFIERS			
	22C.4	IDENTIFY NOUNS, VERBS, PRONOUNS IN SENTENCE			

(.16 - .21)
OBJECTIVE: 22C SENTENCES PARTS OF SPEECH
NAME: _____ Formerly
CBJD: _____ Page 327

Do	Item		Score	Criterion	Date Completed
	22C.7	IDENTIFY SENTENCES: statement, command, question, strong feeling			
	22C.8	WRITE SENTENCE AND USE CORRECT END PUNCTUATION			
	22C.9	CAPITALIZE PROPER NAMES, DAYS, MONTHS, ETC.			
	22C.10	CORRECT CAPITALIZATION IN A GIVEN SENTENCE			
	22C.11	USE CORRECT ENDING PUNCTUATION			
	22C.12	IDENTIFY COMMA, COLON, SEMI-COLON, QUOTATION MARKS			
	22C.13	USE APOSTROPHE CORRECTLY			
	22C.14	USE COMMAS CORRECTLY IN DATES AND ADDRESSES			
	22C.15	PUNCTUATE GIVEN SENTENCE CORRECTLY			
	22C.22	PUNCTUATE SENTENCE, GIVEN MODIFIERS			

(.7 - .15)PUNCTUATION
OBJECTIVE: 22C SENTENCES
NAME: _____ Formerly
CBJD: _____ Page 327

Pages 315 & 316

Do	Item		Score	Criterion	Date Completed
	22C.24	SUBJECT-VERB-PRONOUN AGREEMENTS			
	22C.25	GIVEN INFINITIVE, USE CORRECT FORM OF VERB			
	22C.26	USE PRONOUNS CORRECTLY, SUBJECT/OBJECT FORMS			
	22C.27	CORRECT SENTENCES CONTAINING DOUBLE NEGATIVES			
	22C.28	USE CORRECT COMPARISONS			
	22C.29	USE CONFUSED WORD PAIRS CORRECTLY			
	22C.30	USE CORRECT PRONOUNS, PEOPLE, ANIMALS, THINGS			

PRONOUNS SUBJ/VERB AGREEMENT
OBJECTIVE: 22C SENTENCES
NAME: _____ Formerly
CBJD: _____ Page 327

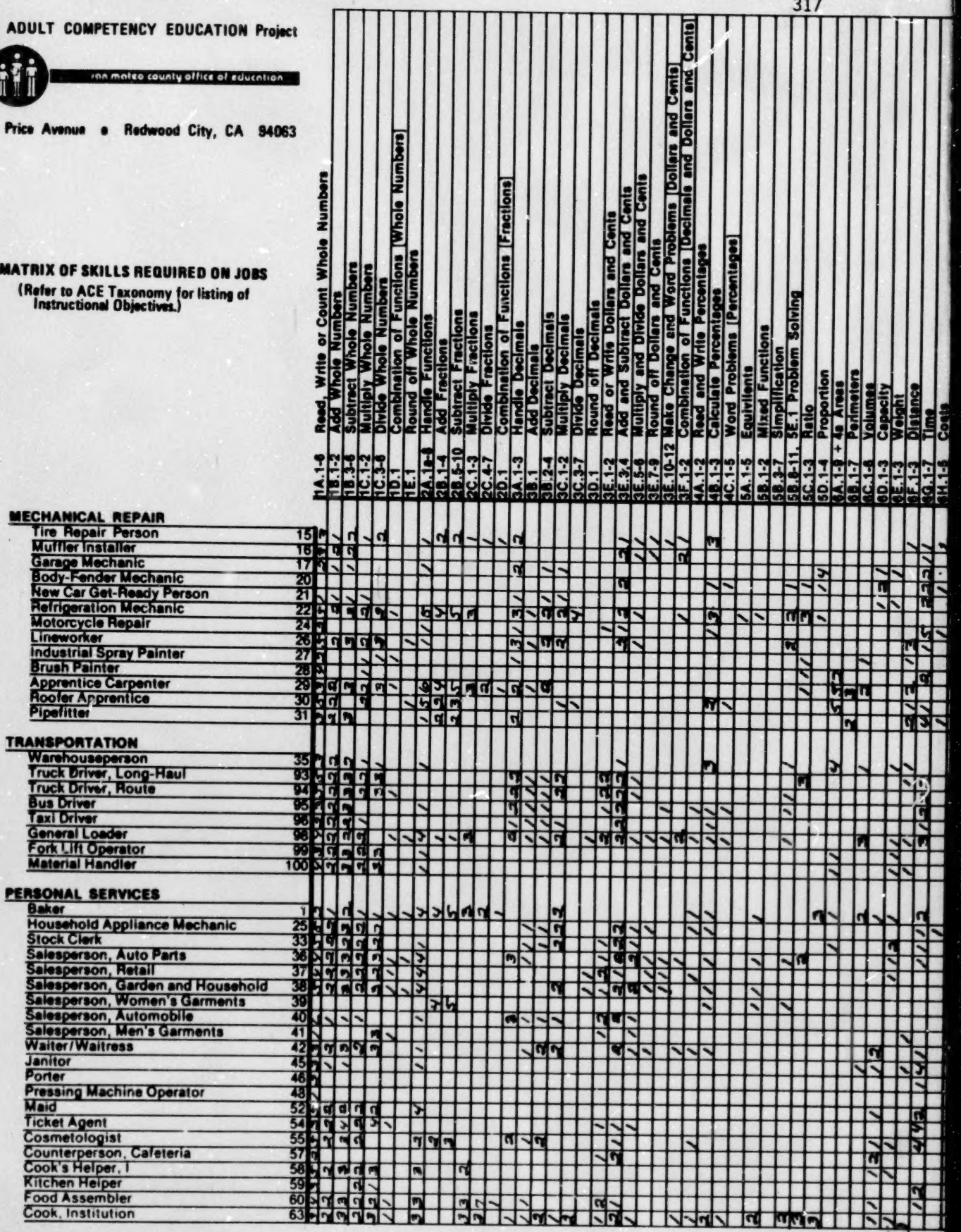
The ADULT COMPETENCY EDUCATION Project

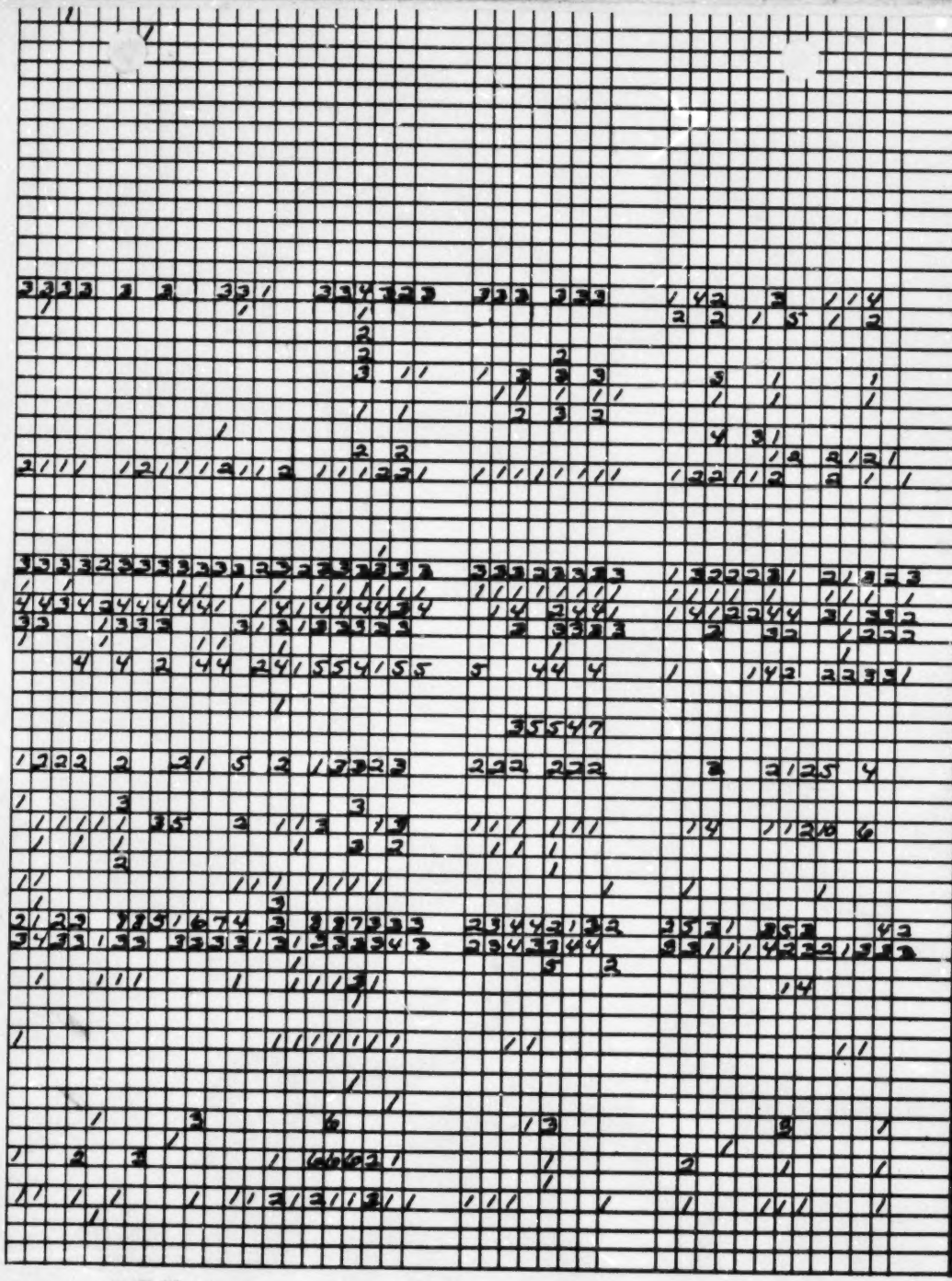
san mateo county office of education

609 Price Avenue • Redwood City, CA 94063

MATRIX OF SKILLS REQUIRED ON JOBS

(Refer to ACE Taxonomy for listing of Instructional Objectives.)





6I.1-4	English measure conversions
7A.1-3	Algebraic Symbols
7B.1-10	Directed Numbers
7C.1-2	Formulas
7D.1-3	1-Variable Sentences
7E.1-16	Progressions & Series
7F.1-11,	7G.1-9 Exponents and Polynomials
7H.1-7	Rational & Irrational Numbers
7I.1-6	Graphs
7J.1-7	2-Variable Sentences
7K.1-3	Matrices
7L.1-9,	7M.1-14 Probability
7N.1-9	Number Bases
7O.1-11,	7P.-17 Set and Group Theory
8A.1-7	Measurement
9A.1-4;	-9F.1-2; Metric Measurement
9G.1-5	Temperature Conversion
10A.1;	10B.1 Graphs
11A.1-9	Forms & Figures
11B.1-14	Angles
11C.1-4	Draw/Sketch
12A.1-4;	- 12C.1 Scale Drawings
12D.1;	- 12F.1-2 Other Drawings
13A.1-2	Read Alphabet
14A.1-10	Beginning Reading
14B.1-12	Pre-A.O.K.
14C.1-4	A.O.K.
14D.1-5	Advanced [Developmental] Reading
15A.1-3	Basic Sight Words
15B.1	Functional Signs
16A.1-4	Read Forms
16B.1-3	Read Charts & Tables
16C.1	Read Notes
16D.1-6	Read Manuals
16E.1-3	Read Newspaper
16F.1-7	Read Dictionary
16G.1-9	Read Maps
16H.1-3	Read Contracts
17A.1-13	Literal Comprehension [Reading]
18A.1-12	Evaluative Comprehension [Reading]
18B.1-8	Interpretive Comprehension [Reading]
19A.1-15	Literal Comprehension [Listening]
19B.1-9	Interpretive Comprehension [Listening]
19C.1-13	Evaluative Comprehension [Listening]
20A.1	Write Alphabet
20B.1-6	Copy Text
21A.1-8	Write Names, Addresses, Dates & Time
22A.1;	22B.1-6 Fill Out Forms
22C.1-42	Grammar
22D.1;	22E.1-4 Write Notes
22F.1-6	Write Paragraphs
22G.1-2	Internal Memos
22H.1	Fill out Purchase Orders
23A.1	Fill in Form Letters
23B.1-5	Write Business Letters
24	Writing Style
25A.1-6	Speaking-Informative or Directions
25B.1-3	Elementary Conversation
25C.1-4	Use Telephone
25D.1-6	Give Directions
26A.1;	- 26D.1 Sorting & Ranking
27A.1;	27B.1-3 Use & Selection of tools
27C.1-3	Select Methods & Procedures
28A.1-2	Goal Achievement

The ADULT COMPETENCY EDUCATION Project

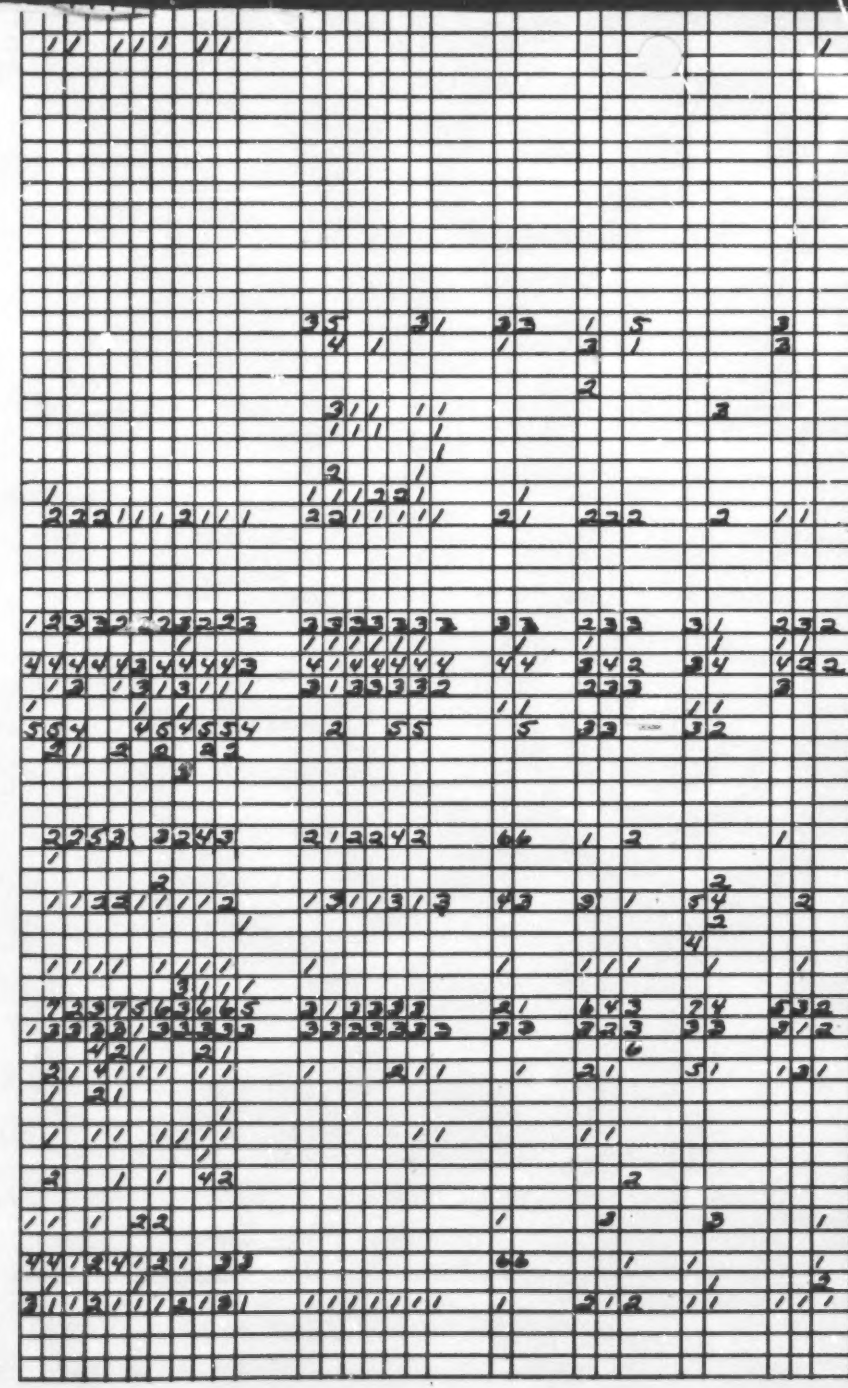
San Mateo County Office of Education

...09 Price Avenue • Redwood City, CA 94063

MATRIX OF SKILLS REQUIRED ON JOBS

(Refer to ACE Taxonomy for listing of Instructional Objectives.)

	Grocery Checker	Mail Handler	Meat Cutter	Child Care Attendant	Guard	Medical Assistant	Medical Supply Clerk	Ward Clerk	Groundskeeper	Animal Keeper	Injection Molder	Electronics Assembler	Printed Circuit Assembler	Micro-Electronics Assembler	Chassis Assembler	Machinist Apprentice	Shipping Clerk	Data Entry Typist	Clerk Typist	Typist	File Clerk	Receptionist	Teller	General Office Clerk	Accounts Clerk	Payroll Clerk	Secretary	Keypunch Operator
	67	74	91	29	49	8	32	72	11	12	61	82	83	84	85	87	92	62	64	65	68	69	70	71	73	75	77	78
1A.1-6 Read, Write or Count Whole Numbers																												
1B.1-2 Add Whole Numbers																												
1B.3-6 Subtract Whole Numbers																												
1C.1-2 Multiply Whole Numbers																												
1C.3-6 Divide Whole Numbers																												
1D.1 Combination of Functions [Whole Numbers]																												
1E.1 Round off Whole Numbers																												
2A.1a-5 Handle Functions																												
2B.1-4 Add Fractions																												
2B.5-10 Subtract Fractions																												
2C.1-3 Multiply Fractions																												
2C.4-7 Divide Fractions																												
2D.1 Combination of Functions [Fractions]																												
3A.1-3 Handle Decimals																												
3B.1 add Decimals																												
3B.2-4 Subtract Decimals																												
3C.1-2 Multiply Decimals																												
3C.3-7 Divide Decimals																												
3D.1 Round off Decimals																												
3E.1-2 Read or Write Dollars and Cents																												
3E.3-4 Add and Subtract Dollars and Cents																												
3E.5-6 Multiply and Divide Dollars and Cents																												
3E.7-9 Round off Dollars and Cents																												
3E.10-12 Make Change and Word Problems [Dollars and Cents]																												
3F.1-2 Combination of Functions [Decimals and Dollars and Cents]																												
4A.1-2 Read and Write Percentages																												
4B.1-3 Calculate Percentages																												
4C.1-5 Word Problems [Percentages]																												
5A.1-5 Equivilents																												
5B.1-2 Mixed Functions																												
5B.3-7 Simplification																												
5B.8-11, 5E.1 Problem Solving																												
5C.1-3 Ratio																												
5D.1-4 Proportion																												
6A.1-9 + 4a Areas																												
6B.1-7 Perimeters																												
6C.1-6 Volumes																												
6D.1-3 Capacity																												
6E.1-3 Weight																												
6F.1-3 Distance																												
6G.1-7 Time																												
6H.1-5 Costs																												



6I.1-4	English measure conversions
7A.1-3	Algebraic Symbols
7B.1-10	Directed Numbers
7C.1-2	Formulae
7D.1-3	1-Variable Sentences
7E.1-16	Progressions & Series
7F.1-11,	7G.1-9 Exponents and Polynomials
7H.1-7	Rational & Irrational Numbers
7I.1-6	Graphs
7J.1-7	2-Variable Sentences
7K.1-3	Matrices
7L.1-9,	7M.1-14 Probability
7N.1-9	Number Bases
7O.1-11,	7P.-17 Set and Group Theory
8A.1-7	Measurement
9A.1-4;	-9F.1-2; Metric Measurement
9G.1-5	Temperature Conversion
10A.1;	10B.1 Graphs
11A.1-9	Forms & Figures
11B.1-14	Angles
11C.1-4	Draw/Sketch
12A.1-4;	- 12C.1 Scale Drawings
12D.1;	- 12F.1-2 Other Drawings
13A.1-2	Read Alphabet
14A.1-10	Beginning Reading
14B.1-12	Pre-A.O.K.
14C.1-4	A.O.K.
14D.1-5	Advanced [Developmental] Reading
15A.1-3	Basic Sight Words
15B.1	Functional Signs
16A.1-4	Read Forms
16B.1-3	Read Charts & Tables
16C.1	Read Notes
16D.1-6	Read Manuals
16E.1-3	Read Newspaper
16F.1-7	Read Dictionary
16G.1-6	Read Maps
16H.1-3	Read Contracts
17A.1-13	Literal Comprehension [Reading]
18A.1-12	Evaluative Comprehension [Reading]
18B.1-8	Interpretive Comprehension [Reading]
19A.1-15	Literal Comprehension [Listening]
19B.1-9	Interpretive Comprehension [Listening]
19C.1-13	Evaluative Comprehension [Listening]
20A.1	Write Alphabet
20B.1-6	Copy Text
21A.1-8	Write Names, Addresses, Dates & Time
22A.1;	22B.1-8 Fill Out Forms
22C.1-42	Grammar
22D.1;	22E.1-4 Write Notes
22F.1-6	Write Paragraphs
22G.1-2	Internal Memos
22H.1	Fill out Purchase Orders
23A.1	Fill in Form Letters
23B.1-5	Write Business Letters
24	Writing Style
25A.1-6	Speaking-Informative or Directions
25B.1-3	Elementary Conversation
25C.1-6	Use Telephone
25D.1-5	Give Directions
26A.1;	- 26D.1 Sorting & Ranking
27A.1;	27B.1-3 Use & Selection of tools
27C.1-3	Select Methods & Procedures
28A.1-2	Goal Achievement

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THE A.C.E. STORY

Script for the

Adult Competency Education Project's Slide/Tape Presentation

This script is a key to slide changes in the slide/tape presentation. The boxed numbers indicate the slide which should be on the screen at that point. Numbers of seconds between slide changes appear on the script in parentheses as guides for anticipating the next slide change when there is a non-verbal interlude.

(Begin tape)

(7sec) [1] (5 sec) [2] (music begins, 4 sec) [3] (7sec) [4] (12 sec) [5]

Hi, I'm James Reynolds, and I'd like to tell you something that happened to me a while back. You see, I had been working as a bus boy for about 5 years when the place I worked at decided to have the waiters and waitresses do my job.[6] Well, I really liked working there so I tried to become a waiter but it was tougher than I thought. I needed better reading, writing and math skills to do the job.[7] I'd already known that I had to improve these skills and I had taken some night classes, but I never seemed to learn very much.[8] The teachers either went too fast or too slow and I got confused or bored.[9] Then I heard about this school called ACE where I could learn at my own pace and just study things that were important to me, like the reading and math that I would need to become a waiter. I found out later that ACE knew what skills I needed as a waiter[10] because they'd actually interviewed a waiter and asked him a lot of questions about just what math and reading he had to do on his job.[11] (6 sec) [12] (5 sec) [13]

The ACE project had interviewed people working in the most frequently available entry level jobs in San Mateo County.[14] They spent an hour and a half with the worker at his job site and learned what math and communication skills he needed on the job. ACE asked such questions as:[15] In your work do you count? In your work do you add or subtract? [16]

Multiply or divide? Round off numbers? Do you solve problems like determining the percent of a number? [17] Do you read labels on common products? [18] Do you fill out a time card? The interviewer also recorded the reason the skill is needed. The interviewer collected copies of job-related materials [19]--forms, signs, labels, manuals, charts and graphs. The information was then written into competencies and matched against instructional objectives. [20] These tasks were assembled into competency based job descriptions. [21]
(14 sec) [22]

The first time I saw one of the ACE job descriptions was when I talked to the ACE counselor. First, though, she wanted me to be sure that the waiter job description was the one I wanted to work on.
(10 sec) [23]

I'm Linda Kurtz, the counselor for the project. After James called for an appointment, [24] I explained the ACE program, that it is an academic skills training program, and I got some basic commitments from him on his willingness to expend a certain amount of time and energy working toward gaining these basic academic skills. [25] Then I presented him with some vocational counseling exercises to assess his interest in different job areas. [26] James's responses indicated an interest in the service skilled occupations which confirmed what he said about wanting to work with people. [27] We discussed the job of

waiter as to how it fit in with the service skilled occupations and set up an interview with a waiter and his supervisor so that James could find out, and confirm for himself what the physical and academic requirements of the job were. James needed a lot of work on interviewing for a job and assessing his skills, so I set him up to attend our weekly job development workshops to work on such things as skills identification application filling out, methods for gaining information about different jobs, and job interviewing techniques. He agreed to meet with me individually as well so that we could periodically assess his progress. I then referred him to our instructor so that she might more fully explain the academic requirements of the job description and determine those skills James already had.

(8 sec)

Once James had focused on a job goal, we used the waiter job description to determine James's skill level. James tried each of the competency tasks on the job description and discovered for himself those things he could already do and those things he could not yet do. For example, James tried writing out a sample order slip to determine whether he could accomplish competency 22E.4 in the job description. This test required a variety of skills--reading a menu, writing the words from the menu, adding the total, computing the sales tax as well as completing the order form itself. James found

that this and other competencies required skills he had not yet mastered.[39] We noted those skills James possessed and those he had yet to attain to satisfy the job description of waiter on his student competency profile. We talked about where he would begin and what lay ahead.[40] I selected the assignment sheets corresponding to the competencies required for his job description and put them in his folder along with his competency profile sheet so that his tutors would have a record of his progress as well as a general overview.[41] (7 sec)[42] (7 sec)[43]

After I met with Jan to go over my instructional program, she introduced me to Mike and Penny, the two instructional aides who would be helping me with my reading and math skills and giving me the competency tests if they thought I was ready.[44] I've been at ACE for about three months now, and it would take a pretty long time for me to explain everything I've worked on, so let me just tell you what I did last week at ACE.[45] My scheduled time at ACE is Monday, Wednesday, and Friday from 10 o'clock to 12 o'clock. I work on math at 10 and reading at 11.[46] Monday, I met with Mike at 10 as usual. . . .

Hi, James.

How ya doin' Mike?

Uh, pretty good. [47] Every time you come in now, we'll have you fill out this time card. It's similar to one you might have to fill out on the job. [48] You need to write wha time you came in, and then when you leave, you'll put what time you left and how long you were here, so you have to be able to figure out time. [49] The numbers on the side are for what day of the month so you need to look at the calendar and figure out what day it is and be sure to write your times in the spaces next to that day. [50]

Hmmm. I never had to do that before. We always had, you know, the kind that you punched in, so, I don't know, maybe it might be useful if I go to work some other place where they had me filling it out myself.

Yeah, this is sort of a doing thing instead of an instruction thing. [51] Why don't you pick up your folder, and go in the small room in back where it's quiet and try this test?

Ok. [52]
(8 sec) [53]
.....Well, how'd I do on that test, Mike?

You did real well. I don't think you're gonna have any problems making change.

Yeah, I think the workshop I went to really helped. [54]

Well, that just about finishes off decimals now. So . . . let's take a look. Let's write this on and see how far you've come now. [55] You've just finished decimals. And you've finished all your whole numbers. So . . . [56]

Boy, I've come pretty far. When I first started here I didn't think I was going to be able to do all that stuff. [57]

Yeah, you've come a long way.

Well, what's gonna be next?

Well, the next thing we're going to do is find out what a per cent means and how to do 'em [58] . . . how to figure out like sales tax or discounts.

Yeah, I'll have to be able to do that kinda stuff, huh? [59]

Yeah. It won't be too tough, though. It's mostly just multiplying with decimals. Anyway, we'll start on that next time. [60] It's just about time for your reading instruction. [61]

(10 sec) [62] (5 sec)

Hi James.

Hi [63]

Uh . . . OK, the next thing we're going to do is work on filling out applications and other forms, so I want you to try filling out this application,[64] and then we'll go over it together.

OK.
(10 sec) [65]

OK, James. Are you through with the application?

All done.[66]

And how do you think you did?

Well, I think I did pretty well on the education and employment history kinds of things 'cause, you know, I've filled out others before working on things like that,[67] bu I had trouble on a few spots. There's some words . . . uh . . . I'm not sure what they are.

OK. Let me take a look. Like what words did you not recognize? [68]

I'm not sure what . . .

Oh. That's spouse. Do you know what a spouse is?

Does that mean like your wife?

Right. Your wife.[69] It means husband or wife. It would just depend on who's filling it out. And . . .[70] Oh, that word? That's affiliations and it is sort of like clubs, groups, you know, like in the community, groups outside of your job or school . . .

Like the YMCA?

Yeah.[71] And you'd want to put that down because they sometimes like to know that you have outside interests. Well, OK, I've got something here[72] called the Language Master that might help you with those words you don't know 'cause we don't have regular tapes like we did for all those sight words that you'd use in everyday life.[73] These are more specific. You'd just use them or, you know, like filling out job applications. Anyway, what you do is take the card,[74] put it in the machine and you'll hear me saying the word at the same time that you're looking at it while it goes through the machine.[75] So look through this stack of cards and decide which ones you don't know by sight, and which ones you need to learn.[76] Listen to them until you know every word well enough to say it before you hear it.[77]

Uh, will we go over the meaning: afterwards?

Oh, yeah. I want you to includ- in the pile any words that you don't know the meanings of as well as the ones you can't pronounce. [78]

Will I have to learn how to spe l them too? [79]

No, not right now anyway. We c:n work on that later if you want to, but this exercise is just so you'll recognize them on the application. Oh . . . and another thing you might do. [80] Have you been going to Linda's workshops regularly?

Yeah. [81]

OK. There's one tomorrow that would be really helpful for you. [82] She's not going to be talking about things like using the phone book and the want ads to contact people ike in the other workshops, [83] but she's going to have a man come in who does a lot of interviewing for his company, and he's going to give you some ideas on what [84] you should say and shouldn't say, how to look nd just a whole lot of tips on how to handle yourself in an interview so if you can make that, it's tomorrow at eleven. [85]

Is he an employer that gives in erviews?

Uh, he's the head of the personnel department where he works so he's the guy that knows. [86]

What, like stuff they look for?

Right, and I think it would be worth going to do - - going to, so try to make that tomorrow, and I'll see you Wednesday.

OK. Bye.

Bye. [87]
(18 sec) [88]

I went to the workshop as Penny had suggested and found out a lot about the "do's" and "dont's" of in erviewing for a job. [89] I met with Mike and Penny again on Wednesday and Friday at my usual time, and Friday afternoon I went to a workshop [90] on map reading. It was different from the counseling workshops that are given in a weekly series. The counseling workshops are mostly about getting a job and the instructional workshops [91] are about things people need to know in everyday life. They're not given on a weekly basis, and each one is about a different skill, [92] like telling time, using a calendar, or balancing your checkbook. [93] The one that really helped me was one I went to a few weeks ago on making change. There we actually got to handle real money [94] and count

back change. I thought I would probably have to do that if I got a job as a waiter. 95 There were other students there who were interested in cashiering jobs and other jobs that they might have to count change. Some people were there just because they thought it would be a good idea to know that. 96

(18 sec) 97

Throughout the time I've been here at ACE, I've been meeting with Linda and attending her workshops. 98 Counseling has helped me get a better idea of what I want to do, and it's also shown me that there are many more possibilities than I first realized. 99 Jan and I have looked over the job description of waiter again, and we both feel that I'm very close to finishing it. 100 I've passed a lot of competencies since I've been here at ACE.

Well, thanks to ACE, I feel confident about becoming a waiter, but the most important thing is that 101 I feel confident about learning. Maybe I'll choose some other job goal. 102 I think I can handle it now.

(5 sec) 103 (5 sec) 104 (5 sec) 105